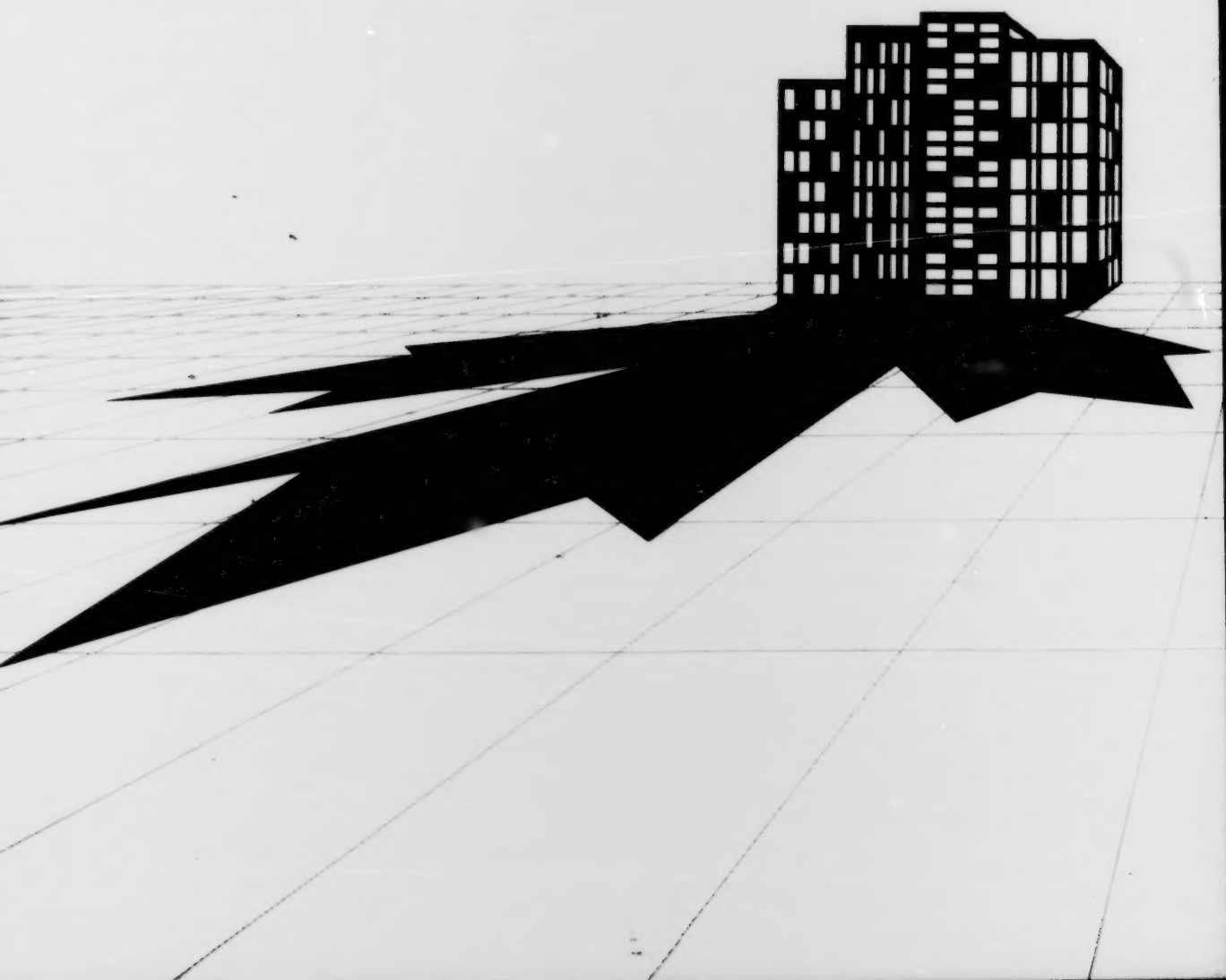
Minding the Public's Business

Economic Council of Canada
1986



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Preface

As a number of governments have assigned a high priority to the review and selected rationalization of their holdings of public corporations, Canadians have come to appreciate the importance of understanding the extent and consequences of government involvement in business.

In initiating this study it was the view of the Economic Council of Canada that we could make a unique contribution based on the broad perspective we could bring to bear on the important issues. Examining federal as well as provincial enterprises, mixed along with wholly owned enterprises, and public corporations that are monopolies as well as those that operate in competitive sectors, has indeed provided us with a useful vantage point from which to observe the strengths and limitations of government ownership.

This study makes an important contribution through the development of a general framework for the evaluation of public enterprise. It draws on evidence from various sectors to develop an understanding of the features of public enterprise and of the roles for which it is reasonable to employ this public policy instrument. And it analyses the issue of accountability and control by attempting to explore the links between the question of control and the role which public enterprises are expected to fulfil.

This study enters new territory for the Council in that its primary focus is on the firm, rather than particular sectors or the economy as a whole. In addition to drawing on economic literature and organization theory, we have used insights provided by the disciplines of political science and public administration.

An antecedent to the current study is previous Council research examining the issue of instrument choice. Among the various tools in the policy maker's kit, which is the most appropriate to achieve particular government objectives? This question has received attention in a number of Council studies, including *Intervention and Efficiency*, the 1982 study of government credit institutions, and *The Bottom Line*, a study of technology and trade published in 1983. For the Council, an examination of public enterprise also broaches several general issues that have long been of interest to this organization. An objective of the Council's previous research has been to shed light on those public sector activities which may be only partly captured (if at all) in government spending estimates. In the report, *Reforming Regulation* released in 1981, the Council examined an important component of government activity and influence, but one which, like government enterprise, is not fully reflected in government spending and in this sense lies largely beneath the surface.

Our report benefited from the contributions of many individuals. We have appreciated the co-operation and assistance provided by officials within the many public

corporations contacted by researchers. I would also like to pay special thanks to the Members of the Economic Council who served on the Advisory Committee on Government Enterprise, and to those individuals from outside the Council who provided us with the benefit of their wide knowledge and experience.

Judith Maxwell
Chairman

Minding the Public's Business

READER'S NOTE

The reader should note that various conventional symbols similar to those used by Statistics Canada have been used in the tables:

-- amount too small to be expressed
- nil or zero
. . figures not available
. . . figures not appropriate or not applicable
e estimated figures
x data confidential, to meet the secrecy requirements of the *Statistics Act*.

Details may not add up to totals because of rounding.

1 Introduction

The line of demarcation between the activities of the public and private sectors has never been firmly drawn in this country. Federal and provincial governments not only provide the framework of rules and the physical infrastructure so vital to the operation of markets; they are in themselves important participants in the market system. Through quasi-independent entities that we call public corporations or government enterprises, governments today account for a significant share of this country's commercial production.

The concept of public enterprise is deeply embedded in the fabric of Canadian society. Even prior to Confederation, public corporations could be found building canals and operating ports and harbours. The establishment of the Canadian nation itself involved a commitment by the new Dominion government to assume the assets and liabilities of New Brunswick and Nova Scotia in respect to various railways and to build the Intercolonial Railway to link those provinces to central Canada. The subsequent unfolding of Canadian history provided numerous occasions for governments to establish or acquire large commercial concerns. Today the federal government is the largest single investor in Canadian industry, and all provinces and many municipalities have major commercial holdings. Public companies such as CN, Air Canada, Petro-Canada, Hydro-Québec, Potash Corporation of Saskatchewan, Alberta Government Telephones, and B.C. Railway have an important and widely recognized presence in the commercial affairs of the nation.

Over the years, Canadian soil has indeed been relatively conducive to the blossoming of state enterprise. The rich mix has been a product of particular needs and challenges: a vast physical expanse, a relatively sparse population, the looming presence of an economically and politically powerful neighbour, strong and distinct regional interests, and the existence of two main cultural and linguistic groups. Public and private sectors have worked in partnership to meet the challenges of building a nation and of developing an economic and social system that would be not only responsive to the material aspirations of Canadians but also reflective of their social consciousness and their regional and cultural diversity.

The diverse circumstances surrounding the creation and use of public corporations in this country are reflected in their great variety. While some major federal corporations owe their existence to the early preoccupation with nation building, a number of recent enterprises were created in response to the problems occasioned by the process of change in a modern industrial economy. Government enterprises have also reflected the influence of distinct provincial objectives, such as Saskatchewan's desire to diversify its economy and Quebec's intention to expand senior managerial opportunities for its francophone population. Public enterprises include the largest nonfinancial Canadian corporation in terms of assets — Ontario Hydro — and minor entities, such as Canadian Patents and Development Ltd. (with assets of less than $1.5 million). Some corporations, such as Canada Post Corporation and VIA Rail, are heavily dependent on public subsidies, while others, such as Alberta Government Telephones and Saskatchewan Minerals, are profitable entities whose behaviour is seemingly not dissimilar to that of their private-sector counterparts. Some public enterprises, such as provincial hydro utilities, are regulated monopolies, but many public corporations operate in highly competitive markets.

By comparison with other mixed, industrialized economies, Canada is more representative of the middle ground than the extremes, in terms of its use of public corporations. Public enterprise is more important in Canada than in Switzerland, Australia, Japan, and the United States.[1] Although the U.S. government intervenes in the economy in many ways, ideological beliefs have tended to discourage government ownership of business.

On the other hand, government ownership in Canada is very modest by comparison with Austria, which has the largest and most extensive state-owned sector of any developed western nation. In France, Italy, and the United Kingdom, public corporations have also played a more prominent role than in the Canadian economy. State-run corporations have a broad presence in these economies, in keeping with the importance these countries have given to public ownership as a tool of economic planning and development. While comparative data on government enterprise in different countries are notoriously difficult to assemble, one recent study suggests that at the end of the 1970s one-quarter of the Austrian economy was controlled by public corporations, as opposed to 22 per cent for France, 20 per cent for Italy, and 18 per cent for the United Kingdom.[2]

Recent Developments

In recent years, citizens of many countries have begun to question the role of government, in general, and the involvement of government in commercial activities, in particular. In the United Kingdom, the Thatcher government has embarked on an ambitious privatization program that, if carried to completion, could reduce the size of the nationalized sector by between one-quarter and one-half by 1988.[3] The French government recently obtained passage of a bill to allow privatization of 65 state-owned companies, including many of the major corporations nationalized by France's socialist government in 1982. In West Germany, where a program of divestiture is well under way, the government recently indicated its intention to sell its 20 per cent holdings in Volkswagen A.G. and its 25 per cent stake in Veba A.G., the energy conglomerate.

In Canada, serious debate on public policy towards government corporations can be traced to a series of inquiries in the mid-1970s into the activities of some major federal enterprises — Air Canada, Atomic Energy of Canada Ltd. (AECL), and Polysar — and to the 1976 *Report of the Auditor General*, which was highly critical of federal management and control of Crown corporations. The effectiveness of federal-control arrangements was explored in a number of subsequent studies, including, most notably, the 1979 *Report* of the Royal Commission on Financial Management and Accountability. The possibility of reducing public ownership, as distinct from reforming public control, became a topic of political debate during the short-lived Conservative regime of 1979-80. Interest in the subject subsequently waned but has since increased to the point where the federal government and several provinces are now actively engaged in programs to restructure their holdings of commercial corporations.

The recent period has seen a number of significant developments. Amendments to Part VIII of the *Financial Administration Act*, the umbrella legislation specifying reporting requirements and financial and control arrangements for federal Crown corporations, were finally passed in June 1984. Under the new legislation, federal enterprises must submit a corporate plan for government approval and are required to provide Parliament with increased information on corporate objectives and corporate performance. The federal government has sold Northern Transportation Co., Canadian Arsenals, de Havilland Aircraft Co., and Canadair, and has reduced its holdings in the Canada Development Corporation, while the Canada Development Investment Corporation, the public holding company created in 1982, continues to negotiate for the sale of other federal enterprises (Eldorado Nuclear Ltd., and Teleglobe). As well, a ministerial task force, now under the chairmanship of Barbara McDougall, is generally reviewing federal holdings to identify promising candidates for divestiture. At the provincial level, there have also been a number of important initiatives. These have included various efforts to improve systems of control and accountability, the establishment of legislative and other review bodies to focus on the activities of particular corporations (especially the public hydro companies), and the sale of some important provincial enterprises. Some notable divestitures have occurred in British Columbia (namely, B.C. Resources Investment Corporation) and in Alberta (Pacific Western Airlines and Alberta Energy Company Ltd.), and Ontario and Quebec are currently involved in a major reassessment of their holdings. The Quebec government has declared its intention to reduce substantially the degree of government involvement in its economy through the full or partial privatization of many of the corporations established in an earlier period of Quebec history. In Saskatchewan, another province that has relied heavily on public ownership, the Conservative government has been following a strategy designed to pave the way gradually for direct equity participation by Saskatchewan citizens in the province's public corporations.[4]

The current interest in the subject of government enterprise can be linked to a number of factors. Public attention has been caught particularly by the recent substantial and well-publicized losses of a few, large federal enterprises. The dismal financial position of some corporations has given rise to questions about federal control reminiscent of those which arose following the inquiries in the mid-1970s. These questions have in some cases been linked to concerns that the government-enterprise sector has reached a size and scope that surpass government's span of control. The federal government, for example, owns or controls almost 150 enterprises, including both parents and directly held subsidiaries.

While these concerns merit attention, they must be assessed with due consideration to the nature and role of public corporations. Government corporations typically have a dual role: they are commercial entities with objectives similar to private firms; but, in addition, they are policy instruments with a requirement to pursue government objectives. It is this mix of economic and policy functions that makes government enterprises unique but also complex, and frequently misunderstood, creatures. While the large deficits incurred by some flagrantly mismanaged public corporations cannot simply be explained away by their noncommercial responsibilities, the policy function of government firms must be considered in any overall performance assessment.

An appropriately broad perspective is also required in assessing other concerns and criticisms that have surfaced in the recent public debate. From the vantage

point of private firms, for example, what is frequently troubling is the preferred position from which government firms appear to be competing. Public corporations, which may be exempt from taxes and able to borrow at preferential rates, are seen to be playing by a different set of rules than their private-sector counterparts. When we view public corporations as participants in a competitive commercial market, these preferences do indeed appear curious. They might still be debatable when we take account of the policy obligations of public firms, but in this context it is at least understandable that government corporations may require support that is not available to private commercial enterprises.

From the perspective of federal and provincial governments that are attempting, generally with difficulty, to limit their cash requirements, the borrowings of government corporations, along with their need for subsidies and additional infusions of equity capital, are an additional source of concern. While in recent years federal enterprises have been turning more to private financial markets to meet their borrowing requirements, this does not alter the fact that their borrowings for the most part constitute a financial liability of the public sector. At the federal level the debt of public enterprises amounted to almost $15 billion at the end of the last fiscal year. The effect of divestiture on a government's fiscal position, however, is far from clear. When a public corporation is sold, there is likely to be an immediate reduction in the government's cash requirements. But if, as is often the case, a corporation is carried on the government's books at a value in excess of its current market price, the sale of the corporation would lead to an accounting loss; the effect would thus be to increase rather than reduce the government deficit. Privatization, therefore, may not help to solve a government's fiscal problems.

There are clearly important issues raised by the performance of public corporations and by the size and extent of the government-enterprise sector. When we accept, however, that government corporations are not merely profit-seeking ventures but also part of the policy and administrative apparatus of the state, the situation becomes much less clear. Even if a corporation itself were to disappear, the policy function it was designed to fulfil would often remain; in the absence of a government enterprise the demand for government intervention would simply be met through an alternative instrument of public policy. The latter, however, would almost certainly give rise to its own problems. An alternative policy approach would entail its own costs and could conceivably have more serious longer-term implications for the growth of government and the increase in the public deficit.

Focus and Organization of the Report

What the previous discussion suggests is the need for government enterprise to be examined within a broad framework, where appropriate consideration can be given to the pressures on government and to the available policy alternatives. Concerns about the commercial performance of public corporations should prompt us to examine the continued relevance and validity of their noncommercial objectives. We should ask to what extent these objectives are being effectively achieved and at what cost to society as a whole. We should also consider whether the costs of intervention can be reduced, either through the use of an alternative instrument or through improved administrative arrangements.

These issues form the substance of this report. We focus on public enterprise as one form of response to the pressures for government intervention. Our purpose is to determine, first, under what circumstances government enterprise is likely to represent an appropriate policy response; and, second, what type of administrative arrangements will enable us to realize the full advantages of employing this instrument of public policy.

Given the number of government enterprises in operation and the broad scope of their activities, this report is necessarily based on selective evidence. We have purposely excluded some sectors — most notably government financial institutions, which were the subject of a previous Council study, *Intervention and Efficiency* (1982), and cultural enterprises, which involve complex issues of a distinct nature. We are, moreover, aware that in the sectors we do examine we have drawn on the experience of a necessarily limited number of corporations.

Some of the corporations we study are of such size and importance that specific findings with respect to the desirability of government enterprise and the effect of prevailing control arrangements are valuable in their own right. Beyond that, we have attempted to look for significant patterns and commonalities. While every government enterprise is to some extent unique, there are some important characteristics that distinguish government enterprises in any given sector from other instruments that could be used to pursue the same policy objectives. There are also some special control problems that apply to entities that straddle the public and private sectors and pursue a combination of political and commercial objectives.

While our study has obvious implications for the current public debate on privatization, our intention is not to develop a list of candidates for divestiture. Rather, our emphasis is on learning what we can from the experience of the past about the potential and shortcomings

of government enterprise. An understanding of the characteristics of this instrument should inform efforts to restructure government holdings; but, in our view, the relevant considerations have received far too little attention within the current public debate.

A word is required on terminology. We use the terms "public enterprise," "government corporation," and "public corporation" at various points to refer to government enterprises. All private-sector corporations, including those whose shares are publicly traded, are referred to as "private corporations."

We begin our journey into the world of Canadian public corporations in Chapter 2, with an examination of the extent of government ownership and a review of the factors underlying the emergence of the government-enterprise sector. In Chapter 3 we set out the framework that we have adopted to guide our analysis and our assessment of the relative merits of this instrument of public policy. Evidence on the activities of public corporations in specific sectors is reviewed in Chapters 4 to 7. Our treatment of the case evidence is selective and intended primarily to shed light on the appropriate role of government corporations and the problems of control. In Chapters 8 and 9, we consider in greater detail the control problems identified in the sectoral chapters in an effort to identify the components of a desirable accountability and control framework. Chapter 10 provides our conclusions and considers some issues bearing on the process of privatization.

2 The Historical Legacy

Government corporations are clearly a major presence in the economy. They are a significant influence in all regions and most sectors, and individual enterprises rank impressively in size whether measured alongside private corporations or government departments. Our purpose in this chapter is to describe the forces underlying the emergence and growth of this important element of the public sector. We begin by clarifying a number of distinctions between public corporations and related public and private entities. We then outline the dimensions of government enterprise, before proceeding to describe historical developments and attempting to identify the factors underlying the observed pattern of development.

The latter exercise is necessarily somewhat speculative. There does not exist a "science" of governing that would enable us to predict when policy makers will choose one policy instrument over another. Indeed, as has been pointed out, there could be reason for concern at a more general level if such a "science" existed.[1] Nonetheless, to advance our understanding of public enterprise, it is important that we at least attempt to consider why this instrument may have responded to the requirements of policy makers in particular circumstances. Such an exercise will provide a useful background for the more normative analysis we undertake in later chapters.

A Distinct Organizational Form

While there is no single, commonly accepted definition of the term "government enterprise," the entities that fall under this label — e.g., Air Canada, Petro-Canada, Hydro-Québec — have a number of common characteristics. The relevant actors are all owned, or at least controlled, by a government; they have a considerable degree of operating autonomy; and they are engaged to a significant extent in what might be considered commercial activities. Each of these characteristics is subject to different interpretations, and the precise boundary lines of the government-enterprise sector vary accordingly. It is clear, however, that we are focusing on entities with a dual personality, reflecting the commercial and public-policy nature of their activities. Government enterprises are a part of the public sector, but they are very different from government departments and from other quasi-departmental agencies. Government enterprises generally assume a corporate form and pursue commercial activities, but they are quite different from private firms. These distinctions merit closer examination.

Public Corporations vs. Government Departments

Government enterprises fall into that general class of public bodies known as "nondepartment agencies." In the case of a department, the minister is given the mandate, and he must answer to the legislature for the management and direction of the department. Nondepartmental agencies, on the other hand, are directly assigned their mandates and powers. They are responsible to the legislature, generally reporting "through" a minister. This delegation of powers is far from complete: ministers do retain certain significant powers and responsibilities with respect to the conduct and activities of nondepartmental agencies. Certain residual responsibilities for operations remain with nondepartmental bodies or with their governing boards or commissions, however. They therefore enjoy a degree of autonomy that is quite different from that of government departments.

Autonomy serves different purposes in the case of different nondepartmental agencies. For advisory or quasi-judicial bodies,[2] such autonomy is necessary in order that independence and freedom from political partisanship may be maintained and that clearly specified rules of procedure can be established. In some cases, autonomy can also be used to achieve breadth of representation. Regional or sectoral representation, often difficult to achieve in the case of government departments, becomes quite feasible when an agency is managed by a governing board or commission rather than by a ministry.

In the case of public enterprises, economic efficiency rather than political impartiality is often the major rationale for autonomy. Bureaucratic procedures and other rules applicable to government departments are often too rigid for public enterprises. The latter also tend to be governed by different labour legislation than government departments. The public corporations in six of the provinces (Alberta, British Columbia, Manitoba, Nova Scotia, Quebec, and Saskatchewan), along with a few major ones in Ontario (e.g., Ontario Hydro), and

most large federal public enterprises are subject to private-sector labour legislation and are thus able to negotiate job issues in a manner generally similar to that of their private-sector counterparts.[3] As well, government departments are prone to the general decision-making and control problems that affect all large organizations; the devolution of authority associated with the establishment of a public enterprise can help reduce such diseconomies of scale.

Public Corporations vs. Private Corporations

As a consequence of their corporate structure, public enterprises, like their private-sector counterparts, have the power to buy and sell property, and to sue and be sued in their own right. Beyond this, there are important differences between public and private corporations. Many of these relate to the fact that government enterprises, unlike private corporations, are typically instruments of public policy.

First, and partly as a result of their public-policy responsibilities, many government enterprises are accorded the status of Crown agents. This confers a variety of potential legal immunities that can vary from jurisdiction to jurisdiction. Prominent among these are exemptions from some income and property taxes levied by other levels of government. Federal corporations generally do not pay municipal taxes, though they may provide grants instead, and provincial corporations usually do not pay federal corporate taxes. (The latter exemption is also recognized in the federal *Income Tax Act* for those corporations that are at least 90 per cent owned by provincial governments.)

A second difference between the public and private sectors pertains to equity and limited liability. The debt of private corporations is secured only by corporate assets, rarely by the assets of the shareholders themselves. Indeed, the need for limited liability of this sort to garner equity investment has been a major reason for encouraging the use of the corporate form. By contrast, for public corporations, debt is generally considered to be ultimately a liability of the government. This is often the result of agency status or of legislation; but even if legal liability is unclear, there is frequently a perception of final government responsibility for debt.

Not surprisingly, the separate purposes and attributes of public and private enterprises redound on the manner in which they are controlled. The formal mechanisms of shareholder control over public corporations extend beyond the traditional powers available to shareholders of private corporations — the receipt of reports, appointment of the board, and approval of certain board decisions. One of the more important differences arises from the ability of ministers to provide direction and to exercise pre-decision control over public enterprises. Control in the public sector is also more fragmented, with the role of the private shareholder divided between a number of public bodies; the government or Cabinet plays a primary role, but the legislature is also involved. Each of these, in turn, may involve several loci of control: different departments and ministers, legislative committees, and the Auditor General.[4]

As a result of its distinctive characteristics, government enterprise has been an attractive means by which to pursue certain objectives. The possibility of marrying social goals with commercial undertakings has appealed to policy makers in a variety of circumstances. Governments have, in some cases, been drawn to the prospect of pursuing certain activities through an organization that was some distance removed from the political process. The legal characteristics of public corporations, and particularly the privileges that accrue to corporations that are Crown agents, have proven useful in a number of situations. These considerations will be evident when we look back at the factors motivating the establishment of government enterprises over the course of Canada's history.

Sizing Up Government Enterprise

To measure the size of the public-enterprise sector it is necessary to develop operational criteria for the three major characteristics of public firms: public ownership, operating autonomy, and involvement in commercial activities. We have interpreted these terms as follows:

Ownership: A government enterprise (GE) must be wholly owned by government. It is to be distinguished from a government-controlled enterprise (GCE), which is effectively controlled but not wholly owned by government.

Autonomy: A government enterprise operates at arm's length and can be distinguished in this respect from government departments. Indicators of autonomy include incorporation, separately prepared and audited financial statements, and a governing commission or board of directors.

Commercial activity: A government enterprise supplies goods or services normally provided by the private sector or it covers at least half of its expenses through autonomous revenue.

The corporations that subscribe to our definition are listed in Appendix B. As of 1985 there were 236 government enterprises and 23 government-controlled enterprises. These, in turn, directly owned or controlled 268 subsidiaries (Table 2-1). Excluded from this table are public enterprises at the local level (those involved in electric power and gas distribution, telephone service, and urban transit). These total over 500, but they are small and represent a minor portion of total public-enterprise assets.

Government-owned and -controlled enterprises accounted for 26 per cent of the net fixed assets (including inventories) of all Canadian corporations in 1983 (Chart 2-1). The substantial size of the sector, in terms of assets, reflects the considerable influence of the capital-intensive provincial electric utilities. Publicly owned and controlled enterprises account for less than 5 per cent of total employment in the economy (Chart 2-2).[5] In terms of the public sector itself, however, public corporations are a large presence; the employees of federally and provincially owned and controlled enterprises constitute over 35 per cent of total government (including government-enterprise) employment.

A number of the largest firms in the country are public enterprises. A recent list of the *Financial Post 500* included 35 public corporations, 10 of which were in the top 100.[6] Government enterprises dominate the electric power industry and are major participants in transportation, communications, and mining (Charts 2-1 and 2-2).

The provincial government-enterprise sector is larger than the federal in terms of assets — again, as a result of the large capital stock of the provincial electric utilities. Employees of federal public enterprises are more numerous, and compared with their provincial counterparts, they constitute a significantly larger share of public-sector employment. Among the provinces, Quebec and Ontario have the largest public-enterprise

Table 2-1

Number of Government-Owned Enterprises (GEs) and Government-Controlled Enterprises (GCEs), 1985[1]

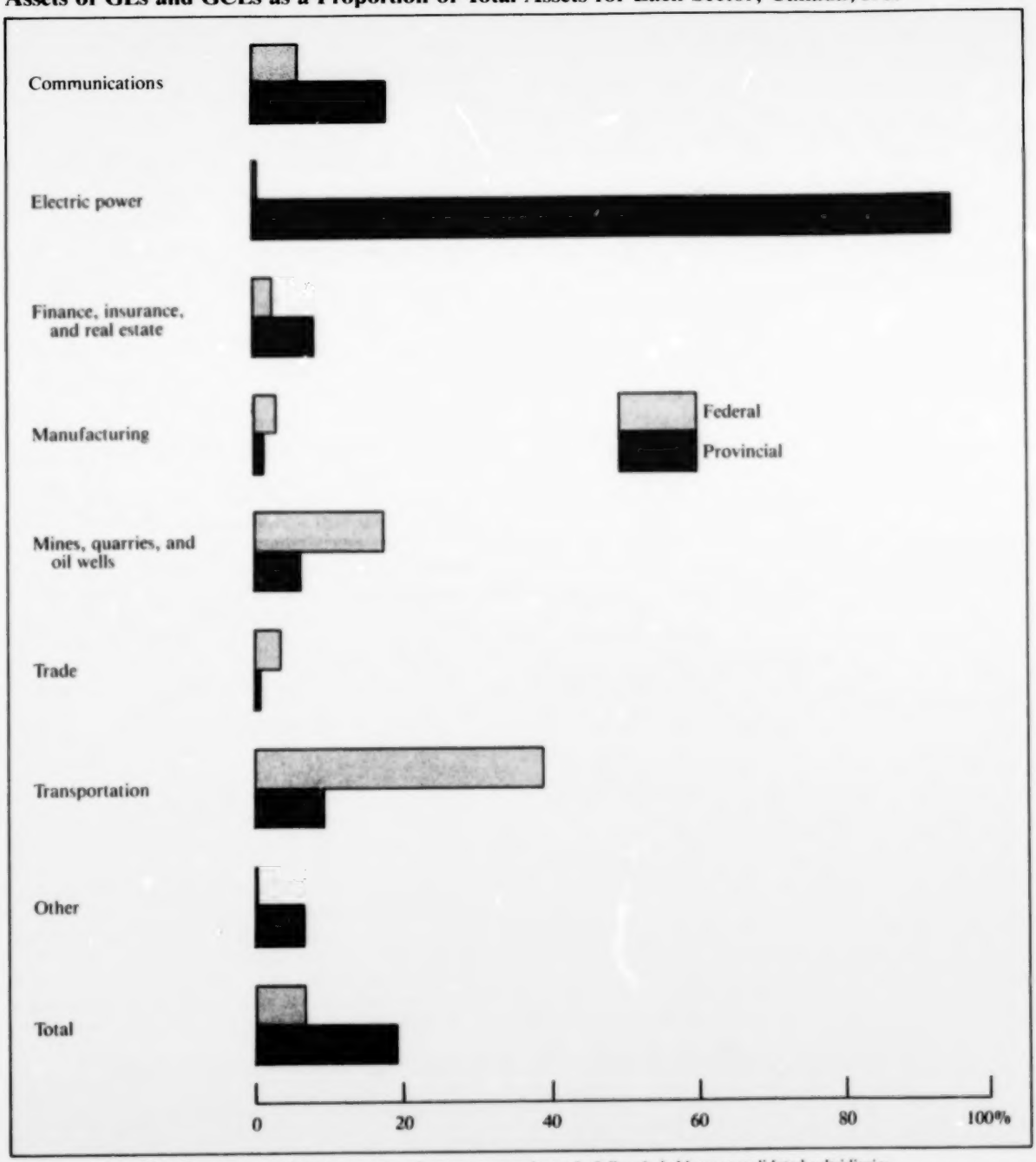
	Parent		Subsidiary[3]		Total	
	Wholly owned	Effectively controlled[2]	Wholly owned	Effectively controlled[2]	Parent	Subsidiary[3]
Federal[4]	43	13	46	35	56	81
Provincial						
Newfoundland	10	2	2	4	12	6
Prince Edward Island	10	2	1	6	12	7
Nova Scotia	14	4	6	2	18	8
New Brunswick	11	1	4	1	12	5
Quebec	43	-	49	30	43	79
Ontario	32	-	24	1	32	25
Manitoba	22	-	7	-	22	7
Saskatchewan[5]	7	-	17	-	7	17
Alberta	15	1	4	11	16	15
British Columbia	23	-	17	1	23	18
Yukon/NWT	4	-	-	-	4	-
Jointly owned[6]	2	-	-	-	2	-
Subtotal	193	10	131	56	203	187
Grand total	236	23	177	91	259	268

1 As of December 31, 1985.
2 "Effective control" requires ownership of a substantial proportion of shares (usually 30 per cent or more), which exceeds the holdings of all other shareholders, singly or in combination.
3 The numbers pertain only to the subsidiaries directly held by publicly owned or controlled corporations.
4 The Canada Development Investment Corporation does not conform to the definition of "government enterprise" used here, as it is not "commercial." Its subsidiaries are commercial and, as such, are included. Similarly, 125459 Canada Ltd., which is 63 per cent owned by the federal government and is the parent company of Fishery Products International, is not included, while FPI itself is.
5 Wholly owned subsidiaries include 16 enterprises held by the Crown Management Board. The CMB performs no commercial function and is excluded.
6 The Atlantic Lottery Corporation is jointly held by the four Atlantic provinces; the Western Canada Lottery Foundation is jointly held by the three Prairie provinces.

SOURCE Annual Reports, Public Accounts, and Statistics Canada's Corporate Ownership Mapping System (1985 database).

Chart 2-1

Assets of GEs and GCEs as a Proportion of Total Assets for Each Sector, Canada, 1983[1]

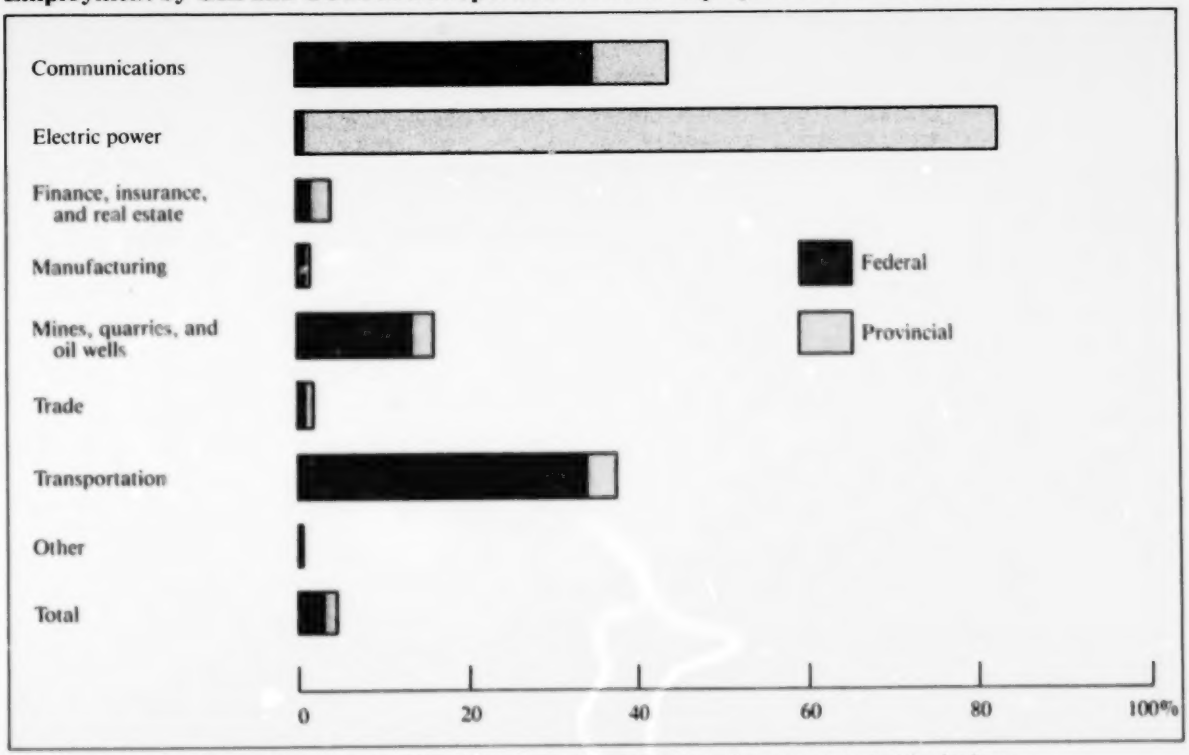


1 "Assets" include net fixed assets and the inventories of parent companies and of directly held, unconsolidated subsidiaries.

Source Total sectoral assets from Statistics Canada, *Corporation Financial Statistics*, Cat. 61-207; and government-enterprise assets from Annual Reports, Public Accounts, and Statistics Canada unpublished data.

Chart 2-2

Employment by GEs and GCEs as a Proportion of Total Employment in Each Sector, Canada, 1983



Source Based on data from Statistics Canada, adjusted to conform to Economic Council's government-enterprise database.

sectors (Table 2-2). Quebec owns the largest number of corporations, and a few Quebec enterprises (i.e., Caisse de dépôt, and SGF) have substantial equity holdings in their own right. In relation to the size of the provincial economy, however, government-owned and -controlled corporations are most important in the province of Saskatchewan.

The creation of public enterprises accelerated in the 1960s and 1970s (Chart 2-3). Indeed, two out of three corporations in existence today were established in the post-1960 period. Nonetheless, in term of both employment and real assets, the growth in publicly owned and controlled corporations generally kept pace with the growth in the total Canadian corporate sector over the 1959-83 period. Public enterprise declined in relative importance in a few sectors, notably transport and trade, and came to play an increased role in a number of others, notably mining and electric power (Chart 2-4).

How did this large and diverse universe of public entities come into being? Why are public enterprises more important in certain provinces and in specific sectors than in others? An examination of the historical forces underlying the creation of some of the more important enterprises can shed light on these issues.

Important Historical Developments

Pre-1929: Period of Nation- and Province-Building

The period prior to 1929 was dominated by the challenge of developing a vast land mass, increasing national cohesion, and counteracting pressures towards integration with the United States. Government enterprise was one response to these challenges. Through their direct involvement in the transportation, communications, and energy sectors, governments provided the necessary infrastructure for development, and they established

Table 2-2

Provincially Owned and Controlled Government Enterprises: Two Perspectives[1]

	Employment by GEs relative to total employment within province	Share of all provincial GE and GCE assets[2]
	(Per cent)	
Newfoundland	1.7	2.5
Prince Edward Island	0.7	0.1
Nova Scotia	1.6	1.9
New Brunswick	1.8	3.0
Quebec	1.4	34.0
Ontario	0.9	27.6
Manitoba	2.4	4.4
Saskatchewan	3.4	6.4
Alberta	2.1	5.9
British Columbia	2.6	14.1
Total		100.0

1 Data are for 1983.
2 Assets include net fixed assets and the inventories of parent companies and of directly held, unconsolidated subsidiaries.
SOURCE Based on data from Statistics Canada, *Provincial Government Enterprise Finances*, Cat. 61-204, and *Provincial Government Employment*, Cat. 72-007; and from Annual Reports; Public Accounts; and unpublished data.

links between disparate regions of the country. A number of the services associated with the provision of this economic infrastructure could be most efficiently provided by a single producer, and government enterprise was, at the same time, a mechanism for addressing the resulting concerns that arise from the existence of a monopoly.

Of course, the circumstances of this early period only *help* to explain the substantial government involvement in the economy. They do not explain why government enterprise was the means of intervention chosen in a number of circumstances. In most cases, reasonable alternatives were available, and these alternatives were often adopted by other governments in addressing a similar problem.

At the federal level, direct government involvement in this period focused heavily on the establishment of transport links. Even prior to Confederation, Canadian and British governments were involved in the building and operation of canals to serve the commercial empire of the St. Lawrence. In 1841, the United Provinces of Canada purchased the Welland Canal between Lake Ontario and Lake Erie, and passed legislation empowering a new Board of Works to expand the canal system. This was the first recorded use of public enterprise in Canada. Before 1867, corporations were also used in connection with the administration of harbour facilities. In this case, a corporation had certain administrative advantages; in particular, it served the government's need for an organization that could hold property and sue or be sued in its own name and that (through its board or commission) would allow for the representation of various local interests.

Direct government involvement in transport increased after Confederation, particularly as a result of the federal government commitment to railway construction. The new national government assumed ownership of the Prince Edward Island Railway and completed the Intercolonial Railway, as promised to the Maritimes. Provincial governments also became owners of railways: the Temiskaming and Northern Ontario Railway, and the Pacific Great Eastern Railway, served the desire of the Ontario and B.C. governments to develop their respective province's hinterlands. At the same time, both levels of government provided a variety of assistance — loans, guarantees, cash, and land grants — to encourage and support private railway construction. The extent of the public assistance provided to the Canadian Pacific Railway Company (CPR) to ensure speedy completion of a wholly Canadian transcontinental railway became, indeed, the subject of much public concern and debate.

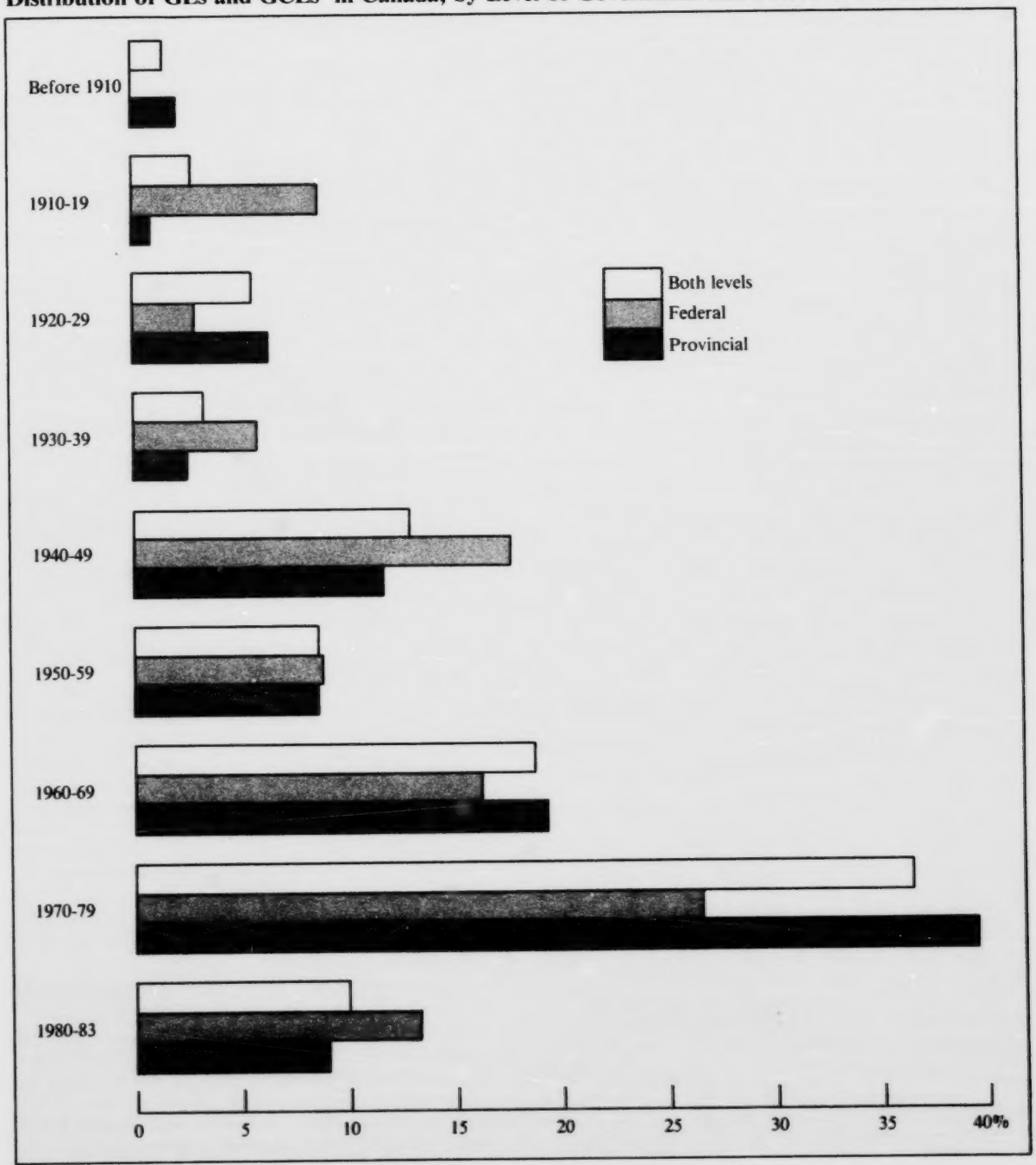
The creation of Canadian National Railways (CN) has been viewed by a number of observers as a logical extension of the government's heavy involvement in this sector. The three national railroads — the Canadian Northern; the Grand Trunk; and its subsidiary, the Grand Trunk Pacific — that were brought together under the umbrella of CN were already heavily dependent on public funds and were, to a significant extent, vehicles of national policy. The process of nationalization that occurred at the end of the First World War has been characterized as follows:

> Nationalization was undertaken not on grounds of principle but as a pragmatic necessity, to prevent the bankruptcy of enterprises in which many individuals had invested their savings, the dissolution of transportation systems of great national importance, and the possibility of serious damage to Canada's credit in foreign capital markets.[7]

But this perspective, which is a popular one, focuses undue attention on the factors that precipitated nationalization. While it may have been reasonable for government to have taken over the firms to avert bankruptcy, the more interesting question is how the railways got into that situation. Why did regulation not work in Canada, whereas it continued to be employed in the case of the U.S. railway industry?

Chart 2-3

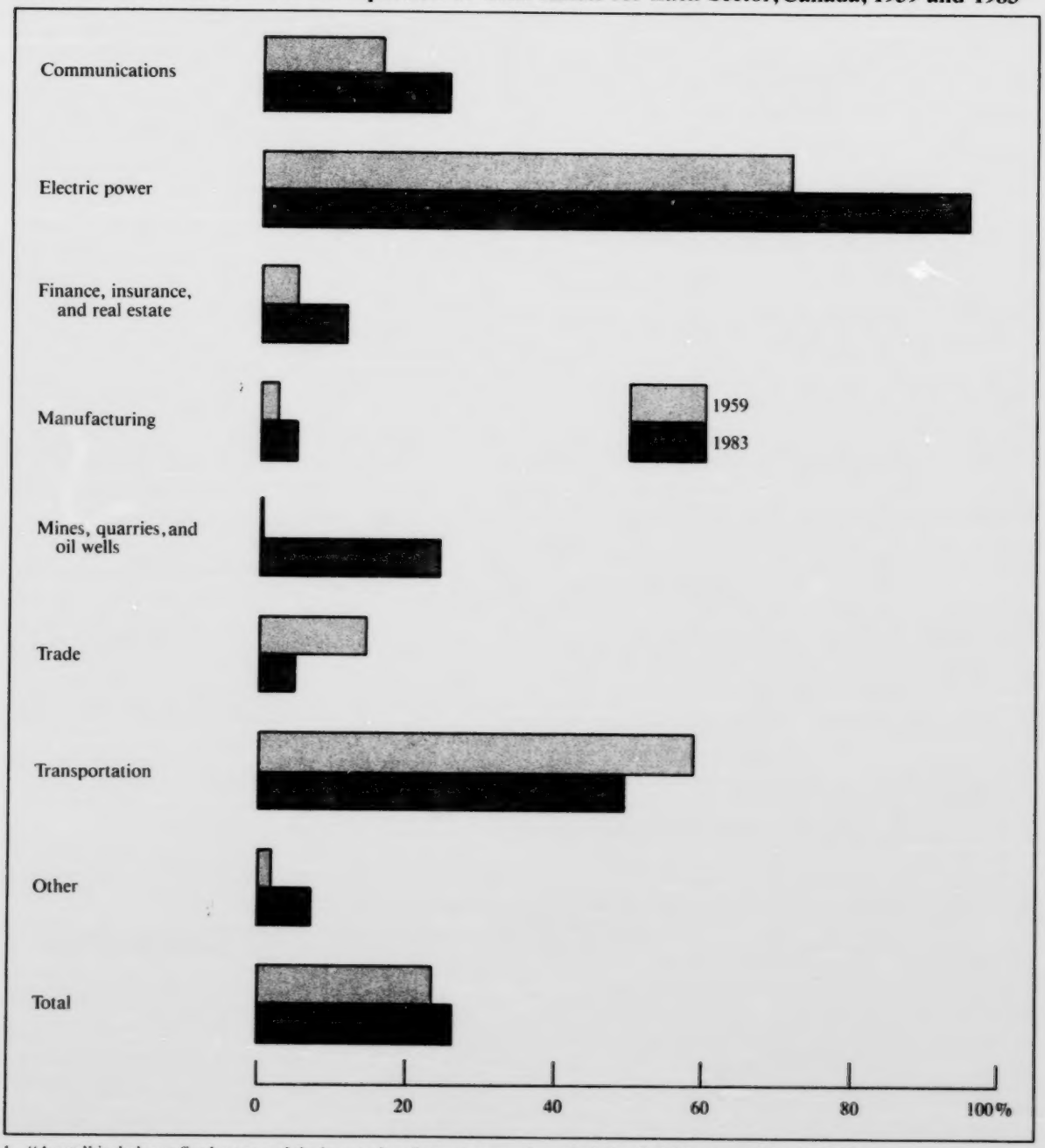
Distribution of GEs and GCEs[1] in Canada, by Level of Government and Period of Creation



1 Including parent companies and directly held subsidiaries in existence as of 1983.
Source Calculated by Economic Council of Canada from Annual Reports, Public Accounts, and Statistics Canada data.

Chart 2-4

Assets of GEs and GCEs as a Proportion of Total Assets for Each Sector, Canada, 1959 and 1983[1]



1 "Assets" include net fixed assets and the inventories of parent companies and of directly held, unconsolidated subsidiaries.

Source Total sectoral assets from Statistics Canada, *Corporation Financial Statistics*, Cat. 61-207, and Department of National Revenue, Taxation Division, *Taxation Statistics, 1962*; government-enterprise assets from Annual Reports, Public Accounts, and Statistics Canada data (derived from *Federal Government Enterprise Finance*, Cat. 61-203, and *Provincial Government Enterprise Finances*, Cat. 61-204).

A recent study for the Council[8] suggests that regulation failed during that period because it was not backed by laws or traditions that would serve to bind the state to a fair contract. In the United States, the judiciary provided an important degree of protection to private firms subject to regulation; specifically, constitutional clauses governing the sanctity of contract were interpreted by the courts to mean that regulated capital deserved a nonconfiscatory level of income. The absence of similar safeguards in Canada proved particularly problematic when the regulatory system was subjected to the strains and political pressures of the First World War. At that time, concern over the large operating surplus of CPR made it increasingly difficult for the regulatory agency (the Board of Railway Commissioners) to grant rate increases for the industry in general. This proved disastrous for the Canadian Northern, the Grand Trunk, and Grand Trunk Pacific, all of which had a substantially higher burden of debt and higher operating costs than the CPR. According to this view, the creation of CN was not so much the product of pragmatism or of this country's taste for public enterprise as a reflection of the undeveloped state of Canada's legal and regulatory framework:

> The Canadian government ... acted in what at best can be called a discriminatory fashion. Whether these results were beyond the control of those in charge is not the issue. What is clear is that, in the end, capital had to rely on the goodwill of the state for protection from confiscation. Reliance on such goodwill, without the protection afforded by a written constitution that guaranteed the right to private property, proved inadequate.[9]

At the provincial level, one of the most important developments during that early period was the establishment of Ontario Hydro. Pressure for the public provision of power in Ontario gained momentum in the early 1900s. Manufacturers from smaller Ontario towns feared that they would be denied access to hydropower, while residents of Toronto were concerned about the profits earned by the franchised private monopolist serving that city. The provincial government's initial response was to allow municipalities to engage in the transmission, distribution, and generation of electrical power. In subsequent years, however, the pressure for "cheap power" through public ownership intensified. The newly elected Conservative government created the Hydro-Electric Power Commission of Ontario — later to become Ontario Hydro — in 1906. The new body was initially a transmission company that purchased privately produced power and carried it to municipally owned systems. Increasingly, though, under its first Chairman, Adam Beck, both the scope of the corporation's activities and its autonomy from government increased. Ontario Hydro actively moved into the generation of power in 1914, and by the early 1920s, with the completion of what is now called the Sir Adam Beck No. 1 station at Niagara Falls, it had become the largest utility in the province.

A number of explanations have been offered for Ontario's use of public ownership, in contrast to most other North American jurisdictions. In addition to the personalities involved, particularly Beck, the avatar of public power, the fact that Ontario's sources of hydroelectricity were so dominated during this period by Niagara made generation much more a natural monopoly than it was elsewhere — in Quebec, for instance. As well, the legal factors cited above with respect to CN played a role. Relative to the United States, the expansion of public power was facilitated by a lack of legal protection for the franchised monopolists who had previously supplied and distributed much of Ontario's electricity.[10] The judicial safeguards that were necessary to prevent this and to establish the basis for a fair and workable regulatory system simply did not exist.

Arguments on behalf of provincial rather than private enterprise in electric power were to prove persuasive elsewhere in Canada, as well. Well before the middle of the century, Quebec, Nova Scotia, New Brunswick, Manitoba, and Saskatchewan had established commissions with the power to generate and distribute electricity.

Pressures similar to those which contributed to the public ownership of electric utilities also arose in the field of telecommunications. In the early 1900s, farmers' organizations, small businessmen, and the municipalities all pressed for public ownership of telephone facilities. The federal government ultimately rejected government ownership, but it did extend the power of the Board of Railway Commissioners to the regulation of telephone companies within federal jurisdiction. In the Prairie provinces, however, the proponents of public ownership got a much more receptive hearing. Immediately after the creation of the province of Alberta in 1905, the new government began purchasing small municipal telephone facilities and installing long-distance lines. The governments in Manitoba and Saskatchewan followed that lead, and before 1910 all three governments had acquired the assets of the Bell system within their respective territories.

The creation of these public telephone companies reflected the requirements of frontier and community development in the Prairie provinces. The problem facing the governments of these newly created provinces has been described as follows:

> A widely scattered, highly intelligent population demanded immediately the installation of telephones on a large scale. Private enterprise in the telephone industry, accustomed to the demands chiefly of industrial areas, proved inadequate to the demands of rural areas requiring immediate expansion.[11]

The desired expansion in rural telephone service might have been achieved by offering a sufficiently attractive subsidy to Bell, the major private alternative. The provincial governments, however, did not have legislative power over Bell, which fell under federal jurisdiction; and the belief was widespread that the eastern-owned and -based Bell would be able to earn excess profits. These concerns provided an important impetus to the movement for public ownership in the three western provinces.

Public ownership at the provincial level has been more widely embraced in the case of the liquor industry. The arguments for government control of the liquor trade were forcefully presented by the temperance movement in the early years of Canada's history. The group's efforts resulted in the passage of the *Canada Temperance Act* in 1878, under which individual localities could hold referenda and vote themselves "dry." The prohibition movement became a major political force with the advent of the First World War, and by 1919, prohibition had swept the entire nation. Major problems were encountered, however, in administering and enforcing the restrictions. In 1921, British Columbia and Quebec became the first provinces to repeal prohibition and establish government agencies with the sole right to distribute and sell liquor. Supporters of the *Ontario Temperance Act* (1910) succeeded in winning a number of referenda prior to 1926 and the election of a provincial government committed to the repeal of prohibition. By 1930, all provinces except Prince Edward Island had followed the example of British Columbia and Quebec.

The arguments for replacing prohibition with public ownership were summarized by Premier Ferguson of Ontario:

> Despite the vigilance and best efforts of the law enforcement officers, bootlegging flourishes and those engaged in supplying the demand for liquor are growing rich in the traffic....
>
> Would it not be better that this demand be supplied through properly controlled channels and the profits, instead of enriching the few, be available for the extension and improvement of hospitals, education, highways and other public services?[12]

Instead of resorting to public ownership the provinces could have permitted private distribution and sale, subject to some combination of regulation and taxation. With regulatory restrictions that seriously limited the availability of liquor, however, the provinces would continue to encounter major enforcement problems. Taxation could effectively meet the revenue objectives of the provinces but, in itself, would not satisfy that segment of the population that believed strongly in the need to control the distribution and sale of this potentially harmful substance. Through public ownership, governments could avoid the exceedingly difficult problems associated with attempts to limit the availability of liquor but yet provide assurance that this commodity was under public control.

1930-60: A Period of Crisis

This second period was characterized by a series of crises — the Depression, the Second World War, and postwar reconstruction. Government enterprise was often enlisted to help address the associated problems and needs of this era.

The year 1930, however, did not mark the end of government efforts to strengthen national unity and protect Canada's political sovereignty. Indeed, this period witnessed the creation of two of the most important "nation-building" enterprises, the CBC and Air Canada.

The Canadian Radio Broadcasting Commission (CRBC) was created in 1932 to provide broadcasting service and also to regulate the activities of private firms in the industry. The establishment of a public enterprise followed the recommendations of a Royal Commission (The Aird Commission) and a House of Commons committee, both of which emphasized the potential of broadcasting as an instrument of national integration. It was also a response to concerns that Canadian broadcasting would become dominated by programs originating in the United States. The private sector was unwilling to invest in the establishment of a national network. At the same time, the British Broadcasting Corporation, which had been in operation since 1927, provided an encouraging example of what could be achieved through public ownership. In 1936, the CRBC was replaced by the Canadian Broadcasting Corporation (CBC), a more independent organization to be overseen by a nine-member board of governors.

The creation in 1937 of Trans-Canada Airlines — later to become Air Canada — was motivated by considerations very similar to those underlying the establishment of the CBC. Again, it was feared that U.S. firms would fill the gap arising from the absence of a national service and come to dominate the Canadian market. In introducing the *Trans-Canada Airlines Act*, C. D. Howe presented the issue as follows:

> Canada is perhaps one of the few countries in the world without a national scheduled air service.... Many Canadian citizens when travelling from one point to another in Canada find they have to use the airlines in the United States.... Airmail stamps are sold in Canada and much

> of our mail is routed across the border, transported by the air services of the United States, and then brought back across the border at the point nearest to destination....[13]

Trans-Canada Airlines was established as a wholly owned subsidiary of CNR. As in the case of the CBC, the decision to create a public enterprise was made only after the government failed to interest private investors in the venture. One proposal that would have seen the new airline as a mixed enterprise was rejected by the prospective private partner, Canadian Pacific; as a minority partner, Canadian Pacific would, indeed, have had reason to fear attempts to steer the airline from commercial towards public-policy pursuits. Government enterprise, moreover, offered a reasonably expedient solution to a problem of some urgency. Previous efforts to establish a transcontinental air service had apparently tried the government's patience:

> The companies that have started in this (transcontinental) service and have disappeared would number a score or more. Our task in Canada is to set up this service without all the lost motion that has been expended during the past ten years.[14]

The use of public enterprise as an instrument to restore market stability is illustrated by a third major federal corporation created in the 1930s — the Canadian Wheat Board. The government of R. B. Bennett had initially favoured an open market system for wheat, centred on the operations of the Winnipeg Grain Exchange. Declines in wheat prices throughout the 1920s prompted western producers to act for themselves by forming cooperatives or pools, organized provincially and coordinated by a Central Selling Agency. These operated successfully until the end of the 1920s, when the Great Depression struck and wheat prices collapsed. Among other measures to assist farmers, the federal government took control of the Central Selling Agency to protect the pools from collapse. This was the first in a series of initiatives by which "the Canadian government was drawn into a role of massive intervention from which, despite its best intentions, it could not, in the end escape."[15]

Faced with wheat prices that were falling to unprecedented depths and with growing surpluses, the government established the Canadian Wheat Board in 1935. The new agency was not to be a monopoly but was to exist side by side with the Winnipeg Grain Exchange. Indeed, as late as 1938, the Minister of Agriculture reiterated the government's intention that "the government should remain out of the grain trade and our wheat should be marketed by means of the futures market system."[16] This was not to be. The sharp upward pressure on prices during the Second World War led the government ultimately to suspend trading in wheat futures. Since 1943, the Canadian Wheat Board has had an exclusive monopoly in the selling of Canadian wheat.

Second World War Corporations

During the Second World War, there was a major expansion in the size of the federal public corporate sector. Thirty-three companies were established during that period, most of them under the special powers granted to the Minister of Munitions and Supply. A number of the corporations were administrative and involved in activities such as coordinating private production, storing and distributing materials and supplies, controlling commodity prices, and providing wartime housing. Other corporations were involved in the production of a wide variety of commodities and supplies required for the war effort.[17]

The imperative during the war was for an organizational arrangement that would contribute to efficient production. Crown corporations had an operating freedom and flexibility conducive to efficiency and thus were often preferable to the departmental form of organization. The corporate structure was, moreover, appealing to the "dollar-a-year" men that the government was attempting to attract from the private sector to assist in the management of war programs.[18]

Government enterprise also proved useful in some circumstances where new plants had to be brought on stream quickly to meet the urgent requirement for war materials. The construction of Polymer's synthetic rubber plant at Sarnia is often cited as an example of what can be achieved when the resources of the public sector are effectively harnessed. While it is conceivable that this project could have been undertaken as efficiently by a private firm under contract, the design and negotiation of a satisfactory arrangement with a private firm (which would have been complicated under the conditions of war by the need to ensure the availability of the required construction materials) would itself have taken considerable time.[19] Through the use of a public enterprise the government was therefore able to respond very quickly to the crisis created after Japan gained control of some 90 per cent of the world's known reserves of natural rubber.

While the majority of wartime public enterprises were dissolved at the end of the war, a considerable number were retained. The latter include Eldorado Mining and Refining Limited, which was considered to fill an essential role in the production of uranium. Polymer Corp. Ltd. — later named Polysar — continued under public ownership, reflecting in part the government's commitment to sustaining a synthetic rubber industry. Canadian Arsenals Limited was established out of six

munition plants, and it provided the government with the continuing capability to develop and produce arms. The nuclear research facility established during the war was retained and became the genesis for Atomic Energy of Canada Ltd. (AECL).

Government Enterprise in Saskatchewan

An important development over this period was the election in Saskatchewan of the first Co-operative Commonwealth Federation (CCF) government, under Premier T. C. Douglas. In 1933, at its first national convention, the CCF endorsed a policy statement (to become known as the Regina Manifesto) extolling the advantages of public ownership and central planning:

> Only in a regime of public ownership and operation will the full benefits accruing from centralized control and mass production be passed on to the consuming public.[20]

The CCF government that came to power in Saskatchewan in 1944 accordingly saw public enterprise as a positive tool to develop and diversify the economy. The Provincial Treasurer, the Honourable C. M. Fines, later expressed the government's position as follows:

> ...there are fields of enterprise which are clearly the concern of government. In the first place, it is the responsibility of any government to see that its citizens are able to obtain goods and services on an adequate scale, and to obtain them at a cost which does not involve exploitation. In this category one might place enterprises such as power, telephones and insurance. In the second place, in a province so largely devoted to a specialized form of agriculture, a very real duty rests upon the Government to promote the greatest possible diversification of the economy — thus mitigating the perils of relying too greatly on a single source of income.[21]

Public corporations were initially created to realize the possibilities inherent in the province's resources — notably in wool, leather, fish, timber, fur, and minerals. The government became active in transport through the formation of a bus company (Saskatchewan Transportation Company, 1946) and a provincial airline (Saskatchewan Government Airways, 1947). Public monopolies were established in telephone service (Saskatchewan Government Telephones, 1947), electric power (Saskatchewan Power Corporation, 1949), and automobile insurance (Saskatchewan Government Insurance, 1944). And public enterprise was also used to address the immediate requirements of postwar reconstruction.

The important role assigned to public enterprise in Saskatchewan created a need for special administrative and control arrangements. The *Crown Corporations Act* (1947) broadly defined the powers of Crown corporations and provided a legislative basis for many of the entities created in the period. The Act also created the Government Finance Office as a central planning and coordinating agency, with responsibility, in particular, for approving corporate capital budgets. Cabinet ministers were given a major role in planning and control: ministers served as chairmen of the boards of individual enterprises, and they constituted the Board of the Government Finance Office.

While the attraction of public enterprise stemmed partly from ideological considerations, it can also be understood in terms of the ability of this instrument to provide the government with increased control over decisions affecting the provincial economy. Corporate investment decisions that would otherwise have been made in head offices out of the province, and perhaps out of the country, were now subject to government planning priorities. Through its enterprises, the Saskatchewan government could pursue policy objectives in transportation and telecommunications — fields in which its regulatory influence was limited because of the reach of federal authority. And it could respond directly to concerns about anticompetitive practices and profiteering by major national corporations. Government ownership was, in this latter sense, partly a way for the province to remedy situations seen to result from the weakness of federal competition policy or the inadequacy of federal regulation.[22]

Government Financial Corporations

With the end of the Second World War the federal government's emphasis shifted from direct involvement in production to a more corrective or stimulative role. Government financial corporations, which could serve both to correct imperfections in the market and to encourage certain desired economic activities, increased significantly in number over the postwar period. The focus of federal attention was on the areas of business, housing, export, and farm finance.

The Industrial Development Bank (1944) — later to become the Federal Business Development Bank — was established to provide medium- and long-term credit to eligible small and medium-sized firms that could not obtain funds from other sources on reasonable terms and conditions. The Export Credits Insurance Corporation (1944) — later to become the Export Development Corporation — administered insurance and financing programs for exporters, similar to those which many of Canada's trading partners had already put in place. The Central Mortgage and Housing Corporation (1945) was created to administer the *National Housing Act*, which had recently been amended. The corpora-

tion subsequently became involved in providing mortgage loans, insuring mortgages, assembling land, and promoting urban renewal. The origins of the federal Farm Loan Board go back to the period of falling commodity prices in the late 1920s, when farmers required both long-term and short-term financial assistance. The corporation was reorganized in 1959 and — under its new name, the Farm Credit Corporation — became a major source of long-term credit for farmers.

While the government could have employed alternative instruments to help certain groups of borrowers, the federal financial enterprises generally had a broader range of responsibilities related to the administration of particular federal Acts. At the same time, these responsibilities entailed commercial functions that government departments were not well adapted to pursue.

In establishing a public enterprise the government would also be conveying a strong commitment to assisting particular well-organized and influential groups. Moreover, since the government corporations were engaged in activities that did not attract private institutions, they were not a focus of concern and opposition for private firms in the industry. In this connection it is interesting that the credit and insurance sector is one of the few in the United States where federal public corporations have a significant presence.[23]

Post-1960: Period of Economic Change

The period since 1960 has been marked by a particularly rapid growth in the number of public corporations (Chart 2-3). The enterprises established in this period have served a diverse range of objectives: they have been used to address structural problems and promote growth but also to protect certain groups from the vicissitudes of economic change; they have been employed to promote national aspirations and also to pursue the particular needs of specific regions of the country; and they have been enlisted in jurisdictional battles between the provinces and the federal government. While many of the early public enterprises were monopolies, corporations established in the recent period have generally had to contend with the challenge of pursuing their mix of social and commercial objectives within a competitive market environment. The years since 1960 have seen public corporations further extend their role in electricity and become a major presence in the mining and the oil and gas sectors (Chart 2-4). And the period has witnessed the emergence of alternative organizational forms, including mixed enterprises and joint ventures between public and private firms.

Federal Enterprises

Many recent federal enterprises have come into being as a result of efforts to support certain activities considered important for employment or development reasons, or because they contribute to more abstract goals such as the strengthening of national unity.

Employment considerations were of paramount importance in a number of cases where government intervened to salvage failing enterprises. The Cape Breton Development Corporation (DEVCO) was the product of one of the more important of these "bailouts." While the Cape Breton economy was heavily dependent on coal mining, the nonviability of the industry had long been recognized. Despite considerable direct and indirect federal assistance, the major private firm, Dominion Steel and Coal Corporation (DOSCO), experienced losses or just broke even on its coal operations throughout most of the two decades following the Second World War. When DOSCO announced its intention to discontinue coal mining in Cape Breton, notwithstanding a promise of increased federal aid, the government recognized it could not allow the mines to close and throw 6,500 miners out of work. It also recognized that the extent of subsidization — totaling about $8 per ton in 1965, or $3,000 per mine employee — would make the guarantees required to attract a private producer exceedingly costly.[24] Following the basic approach recommended by a task force,[25] the government created DEVCO in 1967 as part of a strategy aimed at increasing the efficiency of coal mining and also at reducing the region's dependence on that industry. It was hoped that coal mining could be gradually phased out, once DEVCO's industrial development division had succeeded in promoting new economic activities and in broadening the economic base of the region. While neither of the two major parties had advocated public enterprise prior to DOSCO's decision to close its mines, in the end this came to be seen as a realistic solution to a difficult problem.

In other cases, it is necessary to look beyond the rationale of saving jobs to understand federal efforts to sustain certain activities. A case in point is the federal purchase of de Havilland Aircraft of Canada Ltd. in 1974 from its British owner Hawker Siddeley. Prior to the purchase of the firm, the federal government was in a situation similar to that which it had faced with DOSCO; it found itself providing massive assistance for an activity that the private owners were reluctant to support. The acquisition of de Havilland was the preferred alternative to the termination of the Dash 7 program in which the government had invested heavily and through which, it was hoped, Canada would become a leader in the development of short-take-off-and-landing (STOL) aircraft.

The desire to have a significant Canadian presence in certain industries — which had contributed to government involvement in aircraft manufacturing — was also a factor underlying the establishment of a number of other corporations, including an important mixed enterprise, the Canada Development Corporation (CDC). As originally proposed in Walter Gordon's 1963 budget, the CDC would be a "buyer of last resort" to prevent the foreign takeover of Canadian firms. The legislation that was finally passed in 1971 was motivated by the need to "help develop and maintain strong Canadian-controlled and -managed corporations in the private sector,"[26] but it was based on an understanding of the problem that related ownership concerns to market deficiencies, and particularly to gaps in Canadian capital markets. The intention was that CDC's investments would earn a profit for its shareholders, and federal equity would eventually be reduced to a maximum of 10 per cent. While tax incentives could have been used to increase both the supply of, and demand for, Canadian equity capital, the CDC signified (as tax incentives could not) the government's commitment to the goal of increased Canadian ownership.

Another important, federal mixed enterprise that has been created in this last period is Telesat Canada. This enterprise, jointly owned by the federal government and common carriers (telephone and other telecommunications companies), markets satellite-communications service on a commercial basis. The federal interest stemmed from the opportunity that this new technology provided for improved broadcasting and data communications, including in particular the extension of French-language telecasts to areas outside Quebec and the provision of better television and telecommunication services to the North. International considerations were also involved, related to the allocation of available airspace. Reports leading to the 1969 Act establishing the corporation stressed the urgency of establishing a satellite communications system and the need to assert federal priorities in this new policy area. In responding to the opportunities provided by satellite communications, however, some sensitivity was required to the concerns of the industry that the new technology would replace existing telecommunications facilities. Consideration had to be given, as well, to provincial concerns that government ownership might lead to the exercise of federal influence in areas of provincial jurisdiction. Mixed ownership served to allay these concerns, while still providing the federal government with an opportunity to influence significantly the development of satellite communications.[27]

The decision to establish a state oil company in 1975 was the result of a combination of factors. The concern over foreign ownership, which had contributed to the establishment of other federal public corporations in this period, had led to various proposals to establish a national oil company at the beginning of the 1970s. Superimposed on this were the uncertainties and concerns triggered by the first OPEC oil-price shock in late 1973. The sharply higher oil prices, along with reports suggesting that Canada would become increasingly dependent on foreign sources of energy, focused public attention on the security of Canada's energy supplies.[28] Petro-Canada was seen as an effective vehicle to address those concerns:

> The compelling reasons for [the] creation of a national petroleum company relate therefore primarily to security of supply — from our domestic resources and also possibly from abroad.[29]

It was envisaged that Petro-Canada would contribute to Canadian oil supplies through its exploratory activities, particularly on the frontiers, through its participation in the development of oil-sands deposits and oil-sands technology, and through its role as a state trading corporation. The corporation was also seen as a source of information and expertise that could be utilized in the design of a Canadian energy policy.

While the government could have supported oil exploration and energy development through various incentive programs, a larger government role was required to respond to the pressures of the period. The minority Liberal government that came to power in 1972 was dependent on the support of a party (the NDP) that believed strongly in the need to establish a state oil company similar to that in existence in many western European countries. This view coincided with that of government ministers and officials who saw a state corporation as an opportunity for the federal government to expand its influence over the energy sector. At a time of great uncertainty in energy markets, a vehicle that offered the prospect of enhanced control had considerable appeal.[30]

Government Enterprise in Quebec

Public enterprise took on particular importance in Quebec during the 1960s. Under the so-called "Quiet Revolution," the provincial government assumed a major role in promoting the modernization of Quebec society and increased francophone control over the provincial economy. Government enterprise was one of the main instruments used to achieve those objectives.

The nationalization of the private electric utilities in the province was among the more dramatic initiatives taken during this period. While Hydro-Québec had been established in 1944, in the early 1960s over half the electric power in the province was still being provided by

privately owned firms. The nationalization that occurred in 1963 was in part justified by the need to integrate the system and coordinate investment. Concern also focused on the high rates being paid by Quebec consumers and on the fact that privately owned utilities in Quebec were subject to federal income tax, unlike Ontario Hydro. The takeovers were perhaps most significant, however, in terms of the broader goals of the Quiet Revolution:

> Nationalization of electricity in a complete fashion will, let us not forget, enable Quebec because of the richness of its hydro-electric resources to become the most powerful province in Canada and it will also enable Quebecers, at the same time, to become the masters of their economic development instead of being, as they have been too often, spectators of the activities of others.[31]

The objectives of the Liberal government, under Premier Jean Lesage, were also given clear expression in the establishment of the Société générale de financement (SGF) in 1962 and the Caisse de dépôt et placement du Québec in 1965. The mandate of the SGF required it to foster industrial development and expand the economic base of the province and to encourage equity participation by Quebecers in the local economy. It has attempted to promote development by providing medium- and long-term credit, as well as equity capital, to Quebec firms. While established as a mixed enterprise, SGF is now a wholly owned public enterprise whose activities have been very much subject to government policies and priorities. The Caisse was founded following the decision by the province to withdraw from the Canada Pension Plan and establish its own Quebec Pension Plan. The intention was to provide a vehicle that could manage QPP investments in the best interests of the province. It was believed that, consistent with its fiduciary responsibilities to depositors, the Caisse could support the market for Quebec government securities; encourage the development of local investment dealers; and, more generally, support the growth of Quebec industry.

In the period since 1960, Quebec governments have established a number of enterprises to exploit and develop provincial resources. Some of these corporations were created prior to the sharp rise in resource prices in the 1970s, which has been associated with increased intervention in this sector by all governments. The Société québécoise d'exploration minière (SOQUEM) was formed in 1965 to promote mineral exploration in the province and to collaborate with private firms in that development. The Société québécoise d'initiatives pétrolières (SOQUIP), the first wholly owned government petroleum corporation in North America, was created in 1969 in response to concerns about the province's total dependence on imported oil. These enterprises were intended both to promote development and to provide Quebecers with greater control over the provincial economy. These same goals underlay the creation of the Sidérurgie du Québec (Sidbec), the integrated steel complex established in 1964. In the early 1970s, the government created the Société de récupération, d'exploitation et de développement forestiers du Québec (REXFOR) to bring under a single organization most government activities in forestry. More recently still, the government has founded the Société nationale de l'amiante (SNA) to promote the local processing of asbestos and to ensure that the developmental potential of this resource is fully realized.

Government Enterprise in Other Provinces

In the period since 1960, but particularly during the 1970s, provincial governments have resorted to the use of public enterprise with much greater frequency than in the past. Public corporations have been used to support provincial development, to help provincial governments realize an appropriate return from their ownership of natural resources, and to improve the opportunity for government influence in certain areas of policy making.

While some provincial development corporations were created in the 1950s, these expanded substantially, both in number and range of activities, over the 1960s and 1970s. The emphasis of entities such as Ontario Development Corporation (1966), Alberta Opportunity Company (1972), and British Columbia Development Corporation (1973) was on providing loans to stimulate industrial development and diversification. In some cases, however, the corporations were authorized to provide a broader range of services, including management consulting and assistance in obtaining adequate facilities. Industrial Estates Limited of Nova Scotia and the Manitoba Development Corporation had acquired ownership interests in a number of corporations as a consequence of their development activities. The Manitoba Development Corporation was the full or part owner of some 15 corporations when it was wound up in 1977.

The nationalization of B.C. Electric Co. Ltd. in 1961 illustrates a more direct attempt to use public enterprise to promote provincial development objectives. Statements at the time by Premier Bennett attributed the takeover to the disparity in the tax treatment of privately owned and publicly owned utilities: under public ownership, the corporation would escape the federal income tax to which it was subject as a private firm. And perhaps more importantly, nationalization also ensured the development of power from the Peace River. This project, which was important to the government, remained in doubt as long as it depended on power sales to a private utility.

The purchase of Pacific Western Airlines (PWA) by the Alberta government in 1974 provided an additional perspective on the use of public enterprise to protect and promote provincial interests. The takeover was prompted by the concern that PWA was to be purchased by White Pass and Yukon Railroad, a company with extensive transportation interests along the British Columbia coast and in the Yukon. This, it was felt, could result in the establishment of major traffic routes from British Columbia to the Yukon, Northwest Territories, and Alaska, thereby undermining Alberta's position as a "gateway to the North."[32] Since airline transportation is under federal jurisdiction, the government did not have the option of resorting to legislation or regulation; public ownership provided a unique opportunity for the Alberta government to influence developments in the airline industry.[33]

One of the more significant developments in the recent period has been the emergence of a large number of provincially owned resource corporations. The sharp rise in resource prices in the early 1970s sensitized governments to the value of their resources and the need to ensure that these serve the long-term interests of provincial residents. The tax-exempt status of public enterprises made them attractive to provincial governments, which objected to a share of resource revenues being allotted to the federal government.

Corporations such as Saskatchewan Oil and Gas (1973), the Saskatchewan Mining Development Corporation (1974), and Manitoba Mineral Resources Ltd. (1971) provided the provinces with a vehicle by which they could exercise increased control over resource development and reduce their dependence on foreign-based multinationals. These enterprises were also seen as a potentially important source of resource revenue. Resource corporations in other provinces have served different objectives. The Ontario Energy Corporation (1975) has allowed the Ontario government to participate in a number of major energy projects and to support the development of alternative energy sources and new technologies. The Alberta Energy Company (1974) was a mixed enterprise designed to provide Albertans with an opportunity to participate directly in the ownership of provincial resources.

Government enterprise has also been employed in the case of some difficult conflicts pertaining to resource matters. The establishment of the Potash Corporation of Saskatchewan (1975) was prompted by the province's disputes with private firms and by a series of constitutional challenges to the government's tax and regulatory policies. British Columbia Petroleum Corporation (1973) was created in response to a dispute with the federal government and the National Energy Board over the price to be charged for national gas exported from the province. As in a number of other cases, public enterprise was not the initial choice of policy makers, but it was an appealing alternative in view of the limitations on other instruments.

Conclusion

The Canadian approach to the use of public corporations is often viewed as being reflective of this country's pragmatic political tradition. Certainly, in Canada, public enterprise has not been seen as the vehicle for social and economic change that it was, for example, in certain periods of British and French history. Government enterprise in Canada has rarely been used to embrace a whole sector, as occurred in Britain between 1945 and 1951 when the energy, transport, and steel sectors were nationalized. Nor has there been the same emphasis in Canada as in Britain and France on horizontal policies aimed at the nationalized sector as a whole and intended to ensure that public corporations contribute to broader government goals with respect to growth and resource allocation.

At the same time, it would be wrong to discount the influence of political beliefs and general perceptions about the appropriate role of government in the Canadian economy. Government ownership would be much less acceptable without the existence in Canada of a "concept of the positive interventionist state."[34] Beyond this, the election of governments committed to an expanded role for the state have at times created new opportunities for the use of public enterprise. General changes in perception over time have also been significant. While public ownership was often an instrument of last resort in the pre-war period, by the 1960s and 1970s it had become an increasingly popular form of intervention.

In the current period, perceptions have changed yet again. New public corporations have been established at a much slower pace in the 1980s. Some of the corporations we encountered in our historical review have been sold, and a number of others have been singled out as targets for future privatization. These actions may result in part from changes in government objectives and priorities. But they also suggest that the rationales leading to the establishment of public corporations require closer examination. Public corporations may have been much less successful in meeting particular policy objectives than was hoped, or their use may have involved real costs that were far higher than originally anticipated. It is to an examination of these concerns and to a consideration of whether the roles assigned to public corporations are realistic and appropriate that we turn our attention in subsequent chapters.

3 A Framework for Analysis

From our historical review it is apparent that government enterprises have been brought into being under many different circumstances and as vehicles for a wide variety of objectives. Our purpose in this chapter is to develop a map to guide us in our journey through this vast and complex terrain. We begin by raising three fundamental questions that must be considered for a systematic analysis of any form of government intervention in the economy. Then, in the second part of the chapter, we proceed to look at some general characteristics of government enterprise that will help to determine when it is likely to be an appropriate instrument of public policy. In so doing we attempt to fill the gap that exists owing to the lack of a satisfactory framework for evaluating the role of public enterprise. This chapter provides a basis for Chapters 4 to 7, where we use case studies of specific companies to analyse the potential and shortcomings of this instrument in specific contexts. The analysis here is confined to wholly owned state enterprises. The special considerations that apply to mixed enterprises will be discussed in a later chapter.

Fundamental Questions

In evaluating any form of government intervention, certain basic questions can be posed:

- Why has the government intervened, and does the rationale for intervention remain appropriate under present circumstances?

- Has the appropriate policy instrument been selected?

- Has the apparatus of management and control within government been structured so as to maximize the benefits from intervention?

Since these questions provide the focus for our analysis of government enterprise, they merit some discussion.

Why Has Government Intervened, and Does the Rationale Remain Appropriate?

The reasons for government intervention, in general, and for the use of public enterprise, in particular, are many. Government enterprise, like other instruments of economic policy, is used to afford protection against, and compensation for, the hardships the market process may inflict. In this respect, government enterprise plays a role akin to that played by various subsidy and benefit programs, and certain types of protective regulation. It is simply one way for governments to deal with the general problem that the market, although it may be efficient, sometimes yields a socially unacceptable outcome.

While economic considerations are seldom the only reason for government intervention, they are often an important underlying rationale. It is widely accepted that government intervention may be justified in cases where the market system, left on its own, will not achieve an efficient allocation of society's resources. For instance, problems may arise because the technology of production is such as to result in market dominance by a single firm or a few large firms. A market outcome may also be undesirable because benefits are being received, or costs are being borne, by those not involved in the transaction — a situation involving what are referred to as "externalities." The market is also deficient when it comes to the provision of services, such as national defence, that are "inappropriable" or where value accrues to all members of society regardless of whether they are prepared to pay for it. As well, much government economic policy is designed to respond to ebbs and flows of overall economic activity that result in unacceptable levels of unemployment or prices.

Identifying the objectives of public corporations is often complicated by the existence of several causes or motives and the tendency of these to change over time. An understanding of the major purposes of government intervention is, clearly, a necessary first step in the process of evaluation. In our analysis, while we do examine economic rationales for intervention, we do not question the legitimacy of public corporations' social objectives. We ask only whether those objectives are being pursued and are still regarded as relevant and important by the government itself.

Has the Appropriate Instrument Been Selected?

Given an appropriate public-policy objective, the question then arises as to whether government enterprise

is the most desirable instrument by which to achieve it. Could net social benefits be increased by employing an alternative form of intervention? If we have a certain social objective — say, the provision of low-cost transport services to certain rural communities — is a government corporation the correct policy instrument? Or would a subsidy to private firms achieve the desired result, and at lower cost, when all direct and indirect effects are properly evaluated?

Most government objectives tend to be open to a number of possible solutions. Social objectives such as redistribution can be pursued through the use of government enterprise, regulation, or public subsidies; objectives based on various forms of market failure can likewise be met through regulation or subsidization. Where, for example, it would be uneconomical to have more than one producer providing a service (i.e., where an industry is a natural monopoly), the market power of the monopolist can be controlled either by regulation or by government ownership. Where the social benefits of certain activities exceed private benefits (i.e., where there are positive externalities), the government can itself undertake the activities or provide a subsidy to encourage greater private provision. Where goods or services are characterized by collective consumption, there is a need for public funding, though not necessarily for direct government provision; the government could either produce the so-called public goods or arrange, by contract, to have them provided by a private producer.

The existence of these alternatives means that the effectiveness and efficiency of government enterprises cannot be considered in isolation; instead, they must be compared with other available policy instruments. This is an exercise made more difficult, in many cases, by the inadequacy of accessible empirical data on the impact of such instruments. It is, therefore, particularly important to have a clear understanding of the factors that are likely to influence the costs and effectiveness of government enterprise before embarking upon an inquiry centred on this second fundamental question. We attempt to develop the necessary framework for such an inquiry in the second part of this chapter.

Has the Apparatus of Management and Control Been Appropriately Structured?

A common criticism of government enterprises is that they are not subject to adequate control. Reforms to improve control and accountability have recently been introduced in some jurisdictions, but these have neither reduced interest in the topic nor eliminated the need for further study and debate.

A central problem — one which is common to all organizations that delegate decision-making responsibilities — is how to ensure that the party who has been delegated authority (the agent) will act faithfully on behalf of the party he is supposed to represent (the principal)? When the agent's preferences are not identical to those of the principal and where he has information that is unknown to the principal, the latter must rely on some form of control mechanism. In the specific case of a public corporation, mechanisms are required to ensure that the manager of the corporation (the agent) is aware of government objectives and is encouraged to work diligently in their pursuit. This leads to a consideration of the role of policy directives, monitoring devices, and managerial incentive systems that link compensation to the corporation's performance.

The control problem in public firms is complicated by the multiple objectives assigned to these entities. The noncommercial responsibilities of government enterprises may be difficult to quantify, and they may conflict with one another, as well as with the objective of profit maximization. Moreover, objectives will change over time in response to shifts in political preferences and to new information on the relative costs and benefits of undertaking various activities.

An additional distinction between public and private firms — and a further complication — arises from the fact that the minister, whom we have termed "the principal," is himself accountable for the powers with which he has been vested. The issue of ministerial accountability extends beyond the subject area of government enterprise, but there are some specific issues that arise in regard to the relationship between ministers and the corporations they oversee that must be addressed.

Government Enterprise vs. Alternative Policy Instruments

A major objective of this study is to contribute to an understanding of when government enterprise is likely to be the most desirable form of government intervention. For what types of objectives and under what types of circumstances is the use of a public corporation likely to be more effective and less costly than, for example, regulation, subsidization, or exhortation? The answer to this question will turn on differences between the legal, political, and organizational characteristics of government enterprise and those of alternative instruments. Under some circumstances the constraints associated with the use of available instruments may be such that governments have little or no choice in how they intervene. Public ownership, for example, may

present the only reasonable opportunity for a provincial government to exercise influence in a certain field of activity. In other cases, government enterprise may have a symbolic function that cannot be replicated through the use of other instruments. More often, governments will have a number of options, but each instrument will involve different impacts and entail different costs.

Let us now look at the characteristics of government enterprise that will determine when it is likely to be an attractive form of intervention. In general, as stated above, the merits of government enterprise will turn on differences between its legal, political, and organizational characteristics and those of alternative instruments.

The use of government enterprise involves two distinct organizational decisions: first, to undertake public production rather than contract with private suppliers; and, second, to adopt a corporate rather than departmental structure for public production. Our discussion focuses on these two decisions.

The Choice between Public and Private Production

Where social or economic objectives require that governments provide a good or service, they face the choice of undertaking production themselves or contracting with private suppliers. Both options are available, as we noted, in the case of "public goods." Also, where there exists a natural monopoly, governments can respond to the inadequacy of market forces either by engaging in public production or by establishing a regulatory framework for a private producer. Even where the public sector does undertake production, there may be an opportunity to contract with private firms for many of the intermediate goods and services required. This decision to "make or buy" should be viewed in a broader context in which the "buy" alternative refers not just to purchasing goods and services but also to changing the behaviour of market participants. It would therefore include incentive programs designed, for example, to create jobs or to encourage research and development.

When is it preferable to "make" rather than "buy"? There are various considerations that reflect the multiple roles commonly played by public enterprise as a purveyor of public policy, as a participant in commercial activities, and as a component of the political process. The following sections examine each of these aspects.

Transactions Failure between the Public and Private Sectors[1]

First, with respect to the public-policy (or noncommercial) mandate of government enterprise, experience in the private sector suggests that production for the government's own needs is likely to be a rational economic choice only in situations where there are serious problems associated with market procurement.[2] Where well-functioning competitive markets exist, procurement will tend to be the superior organizational arrangement. Market exchange enables firms to benefit fully from any economies of production that may be available and to avoid the significant internal control problems that would otherwise accompany efforts to increase the scope and diversity of their own production.

A number of contractual problems that could cause procurement to be a costly alternative have been identified. Procurement is in some circumstances subject to serious measurement and evaluation problems.[3] For some transactions the government is unable to define its desired output with sufficient precision to enter into a contract; an incomplete, or inaccurately specified, agreement could create socially undesirable incentives for production. Such problems would, for instance, create an obstacle to contracting out education. A contractual arrangement gearing payments to the number of graduates, for example, would be likely to distort a private firm's decisions with respect to both the type of students accepted and the nature of training provided. Alternatively, a contract may be difficult to specify because of the high degree of uncertainty to which the arrangement is subject. An attempt to allow for future contingencies could result in an agreement so complex that it would be exceedingly difficult to enforce.

Another set of problems relates to the absence of a competitive market for the output that is to be contracted. This may be the result of a very narrow and specific public-policy objective; where the policy objective pertains, for example, to the survival of a particular enterprise or the development of a firm-specific technology, there is clearly no possibility for competitive contracting. Competition may also be precluded because the transaction requires the private contractor to make a long-term commitment, through a major investment, in a highly specialized asset.[4] Competitive bidding may be possible when the initial contract is awarded; however, once the specialized investment has been made, the government and the private firm are locked into a situation of mutual dependency. For example, a municipality could conceivably contract out the process of water purification. While bids could initially be sought from several firms, once a plant was constructed the municipality and the selected firm would be essentially

"stuck with each other." In such situations, where competitive alternatives are not available, the parties to the transaction face substantial risks and will devote considerable resources to reducing their vulnerability.

The government could find itself in a similar situation, where the firm with which it initially entered into a contract would gain certain significant cost advantages.[5] These could result from its access to a unique location or from the ability of the firm's management or workers to acquire knowledge and skills that would contribute to the performance of the specific activity. Where these cost advantages are sizable and where market imperfections impede the transfer of the relevant factors, the situation may approximate that which prevails where specialized investment is involved. Again, the government may be unable to terminate the contract in the case of inadequate performance.

Contracting-out is therefore likely to be costly under the following conditions: where the desired output is subject to severe measurement and evaluation problems; where the policy objective relates to a particular enterprise; and where the requisite transaction ties the parties together, either by giving rise to significant cost advantages or by leading to specialized sunk capital. Public production may offer a reasonable solution to these problems. Public production enables difficult problems of output specification and measurement to be avoided. It permits adjustments to new developments to be made in an adaptive, sequential fashion — an advantage where a long-term commitment is required under conditions involving significant uncertainty. And it affords the government, as owner, access to a wide range of information on performance — an advantage where the contractual alternative would be characterized by a lack of competition and the risks that ensue come from a lack of access to alternative suppliers.

Whether public production will in fact reduce transaction costs depends on the nature and extent of the problems associated with contracting-out. Where there is a need for durable, specialized investment, we must assess the extent of this specialized investment relative to the costs of the total transaction. The desirability of public production will also depend on the frequency of exchange. Where only occasional purchases are involved, it is unlikely to be economic to establish a specialized production facility notwithstanding the high costs of contracting-out. A further consideration is the duration of the contract. Although there may be problems enforcing a given contract, the resulting losses may be minimal if the contract can be terminated after a short interval and the relevant service reopened to competitive tender.

The Commercial Efficiency of Public and Private Production

Most public enterprises pursue both purely commercial and noncommercial public-policy activities. In this section we confine our attention to the commercial. There is now significant literature devoted to analysing the different forces for efficiency in publicly owned and privately owned firms. The central focus of this literature is on what we referred to earlier as the "principal agent" problem; both publicly owned corporations and widely held private corporations must contend with the possible divergence of objectives between owners and managers, and consequently the need for mechanisms to ensure that the decisions of managers (the agents) are consistent with the interests of owners (the principals). In the private sector there are a number of market-driven control mechanisms:[6] the equity market provides an evaluation of the implications of managerial decisions; the managerial labour market strengthens incentives by linking management rewards and opportunities to performance; the board of directors provides for an outside assessment of managerial decisions; and the takeover market may provide an opportunity for either dissident shareholders or outside investors to change the corporation's direction and management.

Public-sector managers are not subject to the kind of discipline that comes where ownership claims are transferable and there exists a competitive capital market. Other disciplinary mechanisms do, however, exist.[7] These are to be found among the institutions and forces that constitute the control process within a democratic state. Ministers and their appointed officials have the direct responsibility to monitor management performance. They are assisted in this task by boards of directors, outside auditors, parliamentary committees, and institutions such as the media and public-interest groups. We shall elaborate on the nature of control mechanisms in Chapters 8 and 9.

In assessing the relative efficiency of commercial production in the private and public sectors, we need to consider both the costs of administering these control systems and their effectiveness. With respect to the first, it is clear that there are substantial costs associated with the large number of participants involved in public-sector decisions. This is not surprising or undesirable; it is simply a feature of the policy-making process in a democratic system. The establishment of a public corporation is intended to reduce the number of participants who are involved in individual decisions, but because the resulting delegation of responsibilities is generally far less than complete, public corporations remain, to some extent, subject to the disabilities of size that affect the public sector as a whole.[8]

The effectiveness of public-sector controls will depend, to a considerable extent, on the nature of the monitoring undertaken by the public officials to whom this task is delegated. There are indeed pressures on bureaucrats and politicians to fulfil their monitoring responsibilities, but the strength of these pressures will depend on the nature of the markets in which each participates: the management market within the public sector; the market for ministerial posts within the governing party; and the market for elected office. In many cases the nature of rewards and penalties is such that the officials have a strong incentive to effectively fulfil their monitoring responsibilities.

It is thus not obvious that managers of public corporations will have any greater opportunity for discretionary behaviour than their counterparts in private corporations. Moreover, this is a difficult issue to resolve empirically, and the general evidence that is available must be treated cautiously. What available studies from various countries indicate is that while ownership does not always make a difference when assessing commercial performance, it can indeed do so. While public firms do not always perform more poorly than private firms, there are circumstances where this tends to be the case.[9] We shall return and attempt to shed more light on this issue in our examination of public corporations within particular sectors.

The Difference between Public and Private "Shareholders"

In comparing the commercial activities of the state with those of a private corporation, we should also consider the different implications for individual investors. When individuals invest their savings privately through the capital market, they determine the size of their own portfolio and structure it to suit their risk preferences. The shareholders of public corporations are denied this opportunity to self-select according to their investment needs and tastes. All Canadians or provincial residents are required to hold "shares" in public corporations. This restriction in choice is an additional cost that is incurred if the state undertakes activities that could otherwise be pursued by private firms.

Different Impacts of Public and Private Production on Public Policy

In later chapters we shall discover that to understand the activities and performance of specific public corporations we must look beyond their characteristics as vehicles of government policy. Government corporations are more than passive instruments of public policy; they are also important components of, and participants in, the political process.

What is at issue, specifically, is the capacity of public production to affect the political calculus of decision makers and thereby influence the nature and extent of government intervention. There are two important aspects of this political dynamic.

The first factor that deserves attention relates to the possibility that the public production will itself become a political concern of some importance. Supporters will include management and employees, both of whom have an incentive to invest significantly in activities that will increase output. But it may also include ministers, along with important groups within the government bureaucracy, who have been associated with policies to create and foster public production. Where policy makers become personally committed to a particular entity, as distinct from the public-policy objectives that are to be addressed, important decision-making biases may result. These may not only affect public output; the relevant concerns may be reflected in regulatory policy, public purchasing policy, and the government's general approach towards particular sectors of the economy. Such policy biases may have important implications for the efficiency of private firms in a particular industry or sector.

This eventuality is not confined to the use of public production. Initiatives involving other instruments will tend to develop their own vested interests within the private sector, as well as within government itself. It will be useful, however, to return to our earlier distinction between policy objectives that necessitate a long-term commitment to a particular producer and policy needs that lend themselves to competitive contracting. In the latter case, political pressures will certainly exist, but they are likely to be more diffuse because of the number of contending interests that are involved; the interests of bureaucrats and politicians are also less likely to be tied to the fortunes of a particular corporate entity. This suggests that where institutional considerations point to the desirability of procurement, political considerations will often reinforce this conclusion. Where competitive contracting is not possible, however, and there is a need for public production or a long-term contractual arrangement with a private firm, the risk of significant policy-making biases must be considered.

The second "political" aspect of the "make or buy" decision concerns the impact of public production on the political costs, and thus the extent, of government intervention. By manipulating production and prices, governments may be able to do, indirectly, what would be politically very difficult to achieve through the more direct instruments of intervention necessary in the

presence of private capital. Public production becomes an extremely subtle mode of intervention where objectives can be altered without public notice or public debate, and where the requisite cost can be covered by internal operating funds. Financing in this case is achieved by a program of cross-subsidization, wherein money-losing activities are subsidized by other profitable production. The effect is to make both the costs of pursuing particular objectives and the extent of any associated redistribution less visible.

There are genuine advantages to using an instrument that is highly adaptable and highly responsive to government requirements. Many, however, would find it highly objectionable to have public policies submerged in such a way that they cannot be subjected to evaluation or debate. The desire to maximize the policy maker's flexibility is also likely to result in administrative arrangements that depart significantly from what is required if government production is to constitute an efficient organizational arrangement. The emphasis on informal channels of communication and the associated reluctance to establish clear public objectives enable ministers to keep their options open, but they greatly complicate the task of control.

In assessing such practices, it is also necessary to consider the possibility that the use of government production in this manner, however costly, may be preferable to the likely alternative. While, for example, a system in which subsidies are direct and explicit is superior, by most criteria, to cross-subsidization, the former may not be politically feasible. The only realistic alternative to government production may be a comprehensive set of regulations that would entail even greater distortions and involve still higher costs.

Of course, while public production is often used in this informal manner, this need not be the case. Indeed, the use of a public corporation, as distinct from a department, may contribute to greater openness and increased accountability. This brings us to the second major aspect of instrument choice.

The Choice between a Public Corporation and a Department

Where it is preferable to "make" rather than "buy," is government enterprise the most efficient way to organize public production?

As we noted in the previous chapter, the essential distinction between a department and a public enterprise is that the enterprise has more autonomy from political supervision. There is no question that a delegation of responsibilities, such as occurs with government enterprise, can yield important gains.

In any large organization it is important to minimize the decision-making demands on those at the top of the organization. By delegating technical or operating decisions to those lower in the hierarchy, those at the top of the organization can devote themselves to broader and longer-term issues. Benefits are also likely to be realized from having operating problems resolved closer to their source; when information is transmitted over shorter distances it is likely to be less subject to loss and distortion. For public enterprise to be an efficient arrangement, however, these gains must exceed the costs that accompany such delegation. The costs consist of the resources that must be devoted to monitoring the management of public corporations, along with any remaining losses that occur because such monitoring would necessarily be incomplete.

Here, the experience of the private sector is once again instructive. The multidivisional organizational structure found in many large and diversified private corporations involves a delegation of decision-making responsibilities similar to that associated with public enterprise. Such a firm is divided into quasi-autonomous operating divisions, organized along product, brand, or geographic lines. This is to be distinguished from the more traditional centralized structure in which the firm is organized by function — i.e., sales, manufacturing, research, or finance. The success of the multidivisional structure is indicated by its popularity among major corporations.[10] This arrangement has proven to be an effective response to the problems posed by the increase in scale and complexity of corporate operations. By adopting the multidivisional form, corporations have been able to realize transactional economies sufficient to offset many of the diseconomies of a large-scale organization.

An important consequence of the multidivisional structure is that it allows for some relaxation of the detailed rules and regulations needed to control large centralized organizations. These rules tend to impair management flexibility and responsiveness. This is particularly so in the public sector, where there is a heavy reliance on rules, many of which are highly unsuited to commercial pursuits. Delegation in the public sector promises a degree of relief from limiting rules with respect to disbursements, contracts, purchases, and staffing. Corporate managers can thus acquire more of the discretion necessary for effective decision making in a commercial environment. Because of this opportunity for greater discretion, public corporations should be able to draw from a larger pool of potential managers, including people with strong technical and interpersonal skills, who for whatever reason would be

unwilling or unable to work in the more rigidly structured environment of a government department. The separation of functions resulting from the creation of a public corporation may thereby contribute to improved management.

If the process of delegation in the public sector is to be efficient, it must capitalize on the information and expertise of corporate managers with respect to operating and management decisions. Where policy matters are involved and political judgment is an important component of decision making, delegation is undesirable and inappropriate. A basic requirement for the establishment of quasi-autonomous units, therefore, is that one be able to separate effectively the operating from the policy-making responsibilities. For a particular activity, the requirements for policy direction must be sufficiently low, and the linkage to other public-sector activities sufficiently weak, for the establishment of a separate subsystem to be a reasonable possibility.[11]

A second requirement is that one be able to establish an information and control system that will effectively limit the costs of delegation. If it is very difficult and costly to ensure that managers are effectively fulfilling their responsibilities, delegation will be undesirable. In the case of some public activities, performance can only be assessed by monitoring the inputs that go into the production process. In addition, the nature of some of these activities is such that any lapse in enforcement would be highly detrimental to the public interest. If decentralization were to occur under these circumstances, there would be the need for an extensive and costly monitoring system that would, to a considerable extent, duplicate the internal monitoring system that the corporation itself had in place.

These considerations may, in some cases, suggest the need for different organizational arrangements for the commercial and noncommercial activities of public corporations. One possibility is that the corporation's public-policy activities do not lend themselves to delegation, but there are more than offsetting advantages to establishing a corporate entity for the accompanying commercial production. While a public enterprise is desirable in this situation, the need for a substantial degree of direction and control with respect to the policy-related activities of the enterprise will necessarily limit the appropriate degree of management autonomy.

More generally, for many types of public-service activities the benefits of delegation are likely to outweigh its costs. But while there is considerable scope for the establishment of quasi-independent operating entities in the public sector, the control systems that exist often depart significantly from what would be required to realize the benefits of delegation.

In addition to any gains in efficiency, the creation of a public enterprise with responsibility for operations can also confer political benefits. It reduces Cabinet responsibility for technical and operating decisions that are beyond its ability to control or judge. The differences in ministerial responsibility between a department and a government enterprise have long been recognized. In 1920, Arthur Meighen noted the distinction in this regard between the Intercolonial Railway, which was managed under a government department, and Canadian National Railways, which was organized as a public enterprise. In the case of the Intercolonial, "the whole business enterprise [was] under the day-to-day review of Parliament and all enquiries of Parliament concerning the enterprise ... [could be] answered." But, in Meighen's view, it was "utterly inconceivable that a tremendous aggregation of railways, a great system such as the Canadian National system ... could ever be conducted along that line. Who would suggest that the system could be run ... if it were to be trammelled by the attention day after day of Parliament, if its business affairs were exposed to its competitors day by day."[12]

Conclusion

In the next four chapters, we shall be reviewing the experience of a number of specific government enterprises. In each case, thought will be given to the objectives the corporation is pursuing. We need to determine, in particular, whether the public-policy objectives assigned to a corporation are still relevant or whether they need to be reassessed in the context of changing market realities.

Given an objective that corresponds to government needs, the next step will be to judge whether government enterprise is the most appropriate instrument. In comparing government enterprise with other policy instruments, it is necessary to gain some insights into the multifaceted character of public corporations. These entities straddle the public and private sectors; they therefore reflect some of the characteristics of each of these very different realms of activity. It is useful for analytical purposes to dissect public corporations (as we did in the second part of this chapter). In doing so, however, we should be aware that the whole, in this case, is more than the sum of its parts; in pursuing multiple objectives and trying to resolve the resulting conflicts and pressures, public corporations will develop personality traits and behavioural characteristics very much their own.

In determining whether government enterprise is the appropriate instrument, it is necessary to establish, first, whether public production is desirable. In a number of cases there are contractual problems of a sort that would make the pursuit of a policy objective through arrangements with a private firm difficult and costly. The organizational advantages of public production could, however, be at least partly offset by other factors. It could be that commercial outputs are being produced along with the "public-policy outputs" and that in undertaking these commercial activities the public sector is significantly less efficient than the private sector. Public production may also influence the political agenda and thereby have some broader implications.

If public production is desirable, it is necessary, secondly, to determine whether it is desirable to entrust the relevant production decisions to a quasi-independent unit of the public sector. A corporation will generally have advantages over the departmental structure insofar as commercial production is involved. It is necessary to determine whether public enterprise is also compatible with the need for effective policy direction and control. To assess the desirability of government enterprise, we must weigh all these factors and consider not only the way that public corporations *have performed* but also the way they *could perform*, given appropriate changes to the management and control framework.

4 Government-Enterprise Monopolies

This chapter examines government enterprise in several industries where production is characterized in whole or in part by monopoly. A public monopoly may develop because of a government's desire to control the distribution of certain substances for health or safety reasons; in the case of liquor, as we noted in Chapter 2, public monopolies were also consistent with the provincial governments' revenue objectives. Beyond this, it is generally recognized that there is a need for government intervention in industries in which the technology of production is such that output is most efficiently provided by a single firm. In these circumstances, identified by economists as "natural monopoly," a firm will generally possess considerable market power. For both economic efficiency and distributive equity it is desirable for the government to intervene to ensure that the prices charged by large-scale producers reflect costs.

Governments have intervened in markets characterized by monopoly in a number of ways. They have signed franchise agreements with private firms. They have established independent commissions to regulate the prices and output of private monopolists. And they have undertaken production themselves, through departments or publicly owned enterprises, sometimes relying on regulatory agencies to assist in controlling the latter.

We shall attempt to shed some light on the contribution of public enterprise to controlling monopoly in three sectors: electric utilities, telecommunications, and municipal transit. Provincially owned utilities dominate the generation, transmission, and distribution of electricity. They are also among the largest public corporations in the country and in 1983 accounted for almost 55 per cent of the nonfinancial assets employed by all federal and provincial enterprises. The publicly owned telephone companies are, by contrast, more the exception than the rule. Outside the Prairie provinces telephone service is largely provided by private corporations, subject to regulation by federal or provincial agencies. The third activity, municipal transit, is provided by independent commissions in some municipalities and by municipal governments themselves in others. In many smaller municipalities, however, the service is operated privately, under contract to a public authority.

These three sectors highlight a variety of public-policy issues that arise in the presence of a monopoly. The first of the three basic questions we posed in Chapter 3 pertained to the appropriateness of public-policy objectives. In the present context the main question is whether the industries are, in fact, natural monopolies. In recent years economists have questioned the basis for government intervention in a number of industries that were traditionally regarded as monopolies. There is now an extensive literature devoted to measuring the economies associated with large scale in various regulated industries and the extent of those economies relative to the size of the market. This issue has arisen most forcefully in the telecommunications sector.

Given a need for government to control monopoly, when (if at all) is government enterprise likely to be the appropriate form of intervention? An important consideration is the uncertainty faced by a firm that undertakes a major investment in long-lived and specialized assets. As we noted in Chapter 3, the type of long-term contract necessary to provide a private firm with the assurance it requires to make such an investment may be very difficult to negotiate and enforce. While monopolies often do involve specialized, long-lived capital — indeed, the sunk capital is frequently the source of the economies of scale and the reason the industry is a natural monopoly — this is not always the case. Urban transit is an example of a monopoly that need not require such a capital commitment on the part of producers. There is, therefore, the possibility in this particular case that a short-term contract with a private firm could be arranged and that the problems arising from the government's dependence on a single firm could be avoided.

In the case of the electric utilities, the provincial governments are confronted with the traditional problem of how to protect consumers in an industry where the highly capital-intensive nature of the infrastructure precludes competition. In addition, however, the electric utilities are often used in Canada for a variety of social purposes, like economic stabilization and regional development, which may be difficult to specify with operational clarity and stability. There are questions as to whether utilities should be used in this manner. But if they are, the juxtaposition of these objectives with the nature of required capital results in a policy issue that is difficult to address through the regulation of private monopolies. Government enterprise can have appeal under these circumstances.

The third general question in Chapter 3 pertained to the appropriate framework of control for public corporations. We examine this issue with reference to the electric utilities. This sector highlights many of the traditional problems associated with the development of a control framework to provide monopolists with an incentive for efficient performance. In addition, it illustrates the problems in developing a control system that is appropriate to the multiple objectives pursued by a public corporation. If care is not exercised, the establishment of a control regime could undermine the advantages of public enterprise over regulation in pursuing certain types of public-policy objectives.

Electric Power

In this section we focus on the three largest provincially owned electric utilities — Ontario Hydro, Hydro-Québec, and B.C. Hydro. Table 4-1 gives some idea of the size of these corporations and of the general dominance of government enterprise in the industry.

The structure of the three utilities and of the electric power industry as a whole has changed substantially in the past 80 years.[1] In the early decades of this century it was common for the generation and distribution of electricity to be handled within municipalities, either by the municipalities themselves or by private companies operating under long-term municipal franchises. Over the years, there has been a shift to larger entities, particularly for generating. To the extent that local utilities remain, they usually deal primarily with distribution, as in Ontario. Contracts with private companies ultimately proved to be inadequate and came to be replaced or supplemented by an ongoing regulatory process. Finally, the years have witnessed the disappearance of private companies and the emergence of provincial enterprises. The provincial utilities, in turn, have increasingly been structured as independent corporations and subjected to more elaborate forms of control by the provincial governments.

These changes had several roots. The shift to larger entities was partly due to technological change — the

Table 4-1

Canadian Electric Utilities, 1985

	Number of employees	Assets	Capital spending	Revenue
		($ thousands)		
Government enterprises:				
Ontario Hydro	31,166	29,320,000	2,541,000	4,699,000
Hydro-Québec	18,322	29,183,000	1,528,000	4,558,000
British Columbia Hydro and Power Authority	7,149	10,579,000	484,000	2,078,000
Manitoba Hydro Electric Board	3,805	2,923,583	122,903	543,497
New Brunswick Electric Power Commission	2,500	2,820,973	87,467	867,114
Saskatchewan Power Corporation	3,064	2,820,000	259,000	884,000
Newfoundland and Labrador Hydro[1]	1,304	2,106,049	103,363	320,583
Nova Scotia Power Corporation	2,454	1,433,757	77,716	520,412
Northern Canada Power Commission	330	267,519	12,344	90,390
Privately owned enterprises:				
TransAlta Utilities Corporation	2,496	3,735,600	210,100	911,600
Canadian Utilities	4,144	2,551,857	220,357	1,381,722
Newfoundland Light and Power	938	353,404	32,990	244,007
Maritime Electric	201	85,676	4,585	64,119

1 Data are for year ending December 1984.
SOURCE Annual Reports and *Report on Business* magazine, July 1986.

falling costs of long-distance transmission and the development of large, efficient central generating stations. Much of the change, however, reflected a search for institutions suited to the objectives of government. Contractual arrangements proved ineffective for the reasons suggested in the preceding chapter. Given the long-lived nature of the necessary capital, private producers required long-term contracts, which typically ran 20 or 30 years. Under these circumstances, especially with rapid changes in technology, it was impossible for governments to control the level of producers' profits. Similarly, the shift to provincewide corporations was, to an extent, the result of the provincial desire for equitable prices — prices that would not vary too greatly within each province.

To trace the influence of government objectives on the structure of the industry, two periods should be distinguished. In the first half of the century, governments' purposes were generally distributional; the main focus was on the level and structure of prices and the need for universal service — the sorts of concerns traditionally addressed through government control over monopolies. It was in this period that Ontario Hydro, Hydro-Québec, and the B.C. Power Commission were created. Since 1950, public utilities have come to be seen in a broader context. Given the amount and importance of their capital expenditures to provincial economies, it was recognized that utilities could serve such policy objectives as job creation, regional development, and macroeconomic stabilization. During this more recent period nationalizations occurred that led to a major expansion of the publicly owned electric utilities in British Columbia and Quebec (see box).

The U.S. experience provides an interesting counterpoint to the Canadian with respect to the choice of institutions. There, the historical trend was quite different. While both public and private utilities exist, the private utilities have tended to grow more quickly than the public, certainly in the past half century and especially with regard to generating capacity. It has been suggested that this reflected legal differences between the two countries.[2] Thus the expansion of Ontario Hydro was facilitated by the municipalities' abrogating contracts that guaranteed private utilities an exclusive right to supply electricity. This could not have occurred in the United States because of the existence of constitutional guarantees for private property. More important, though, is probably the fact that U.S. governments never came to regard these entities as vehicles for public policy generally rather than purveyors of electricity. There are, of course, exceptions to this rule — the Tennessee Valley Authority, for instance.

Roles and Objectives

All three public enterprises are now used for a variety of purposes beyond those normally associated with electrical utilities, though this is not always clear from any formal statement of their role and powers. In all cases, the legislation (the *Power Corporation Act* in Ontario, the *Hydro and Power Authority Act* in British Columbia, and the *Hydro-Québec Act*) provides the corporations with broad powers to produce, transmit, and sell electricity within the province. These are their essential activities. As well, there are a number of ancillary activities, of greater or lesser importance, that vary by province and are also recognized in the legislation. For example, Ontario Hydro regulates the prices set by municipal utilities and enforces electrical safety standards. Hydro-Québec receives a mandate for energy-related research and for marketing engineering services. Of greater relevance for the discussion to come, all three utilities are given the right to purchase electricity within the province and, a relatively recent change, Ontario Hydro and Hydro-Québec are given a mandate to promote energy conservation.

While the Acts describe permissible activities, however, they are for the most part vague about the objectives and principles to be pursued by the utilities in performing their tasks. To some extent, these are provided in other structured contexts: Ontario Hydro must submit price proposals to an independent advisory body that has promulgated certain principles by which they are judged. The *Hydro-Québec Act* enjoins the corporation generally to take account of government energy policies in its deliberations, and Ontario Hydro makes a similar commitment in a memorandum of understanding[3] signed with the provincial government. B.C. Hydro submits rates to an independent regulatory body, and the *Utilities Commission Act*, which establishes the latter, discusses briefly the standards to be followed in setting rates.

Without going into further detail about the mechanics of control (soon to be discussed at greater length), the legislation generally presents a picture of autonomous corporations led by boards of directors, with certain of their major decisions subject to veto by Cabinet and broadly guided by government energy policy. Recent changes have emphasized this independence. Until the early 1970s, the utilities were administered by commissions that tended to be dominated by politicians, civil servants, or full-time employees of the utilities. The present boards of directors have wider membership and include industry experts, as well as representatives of regions or sectors of the province. In British Columbia, politicians do continue to sit on the board of B.C. Hydro. In Quebec and Ontario, however, civil servants or active politicians are no longer board members.

Major Historical Developments

The Ontario Hydro-Electric Power Commission was established in 1906. The impetus for its founding came from contractual failures with the private electrical franchise in Toronto and, more importantly, from a desire for regional equity. There was a general perception that the Toronto company was earning excess profits. Moreover, it had access to cheap hydro-electric power from Niagara, which other areas of the province - particularly the entrepreneurial class in southwestern Ontario - coveted. To satisfy that desire, Ontario Hydro functioned initially only as a transmission company; subsequently it expanded its activities and developed its own generating capacity. Indeed, it quickly came to dominate electricity generation in the province. The development of a distribution network was primarily due to a government mandate to provide electricity at affordable prices in rural areas, and the capital cost of this service was initially subsidized by government.

The first provincial electrical utility in British Columbia - the precursor of B.C. Hydro - was the B.C. Power Commission. It was established in 1945 by nationalizing a number of small, private utilities outside Vancouver and Victoria. Its mandate, too, was essentially rural electrification: the provision of power at affordable rates in nonmetropolitan areas.

Hydro-Québec was created in 1944 - again, primarily because of concerns about electricity rates. The most important constituent of the new entity was the assets of Montreal Light, Heat and Power Consolidated, and of its associated companies. For some years the government had tried to regulate the private electrical companies in the province. It was widely felt that the Montreal company had managed to evade that control and earn excessive profits. The second major private electrical company in Quebec at the time, Shawinigan Light and Power, was not nationalized because it had been amenable to regulation.

In the more recent period, in the years since 1950, the replacement of private with public entities in the electrical industry continued, but the nature of the impetus changed. It came less from traditional concerns about monopoly and prices than from a variety of socioeconomic objectives that often had little to do with the sector as such. These included, *inter alia*, job creation, regional development, macroeconomic stabilization and, in Quebec, the promotion of francophones. This shift reflected the expansion of the role of governments in the postwar period, coupled with the fact that capital expenditures by the electrical utilities constituted a substantial presence in the provincial economies. As well, the utilities were often involved in developing resources, particularly hydro-electric resources, that were provincially owned. The change in emphasis is most evident in the massive nationalizations that expanded the provincial utilities in British Columbia and Quebec in 1961 and 1963, respectively.

In 1961 the government of British Columbia nationalized the B.C. Electric Company - a private, regulated company, and by far the largest electrical utility in the province. The following year, B.C. Electric and the B.C. Power Commission merged, to form the British Columbia Hydro and Power Authority. The reasons for this lay primarily in the government's plans to develop the province's water resources. The province was intent upon developing the hydro-electric potential of both the Columbia and Peace River systems. This required that power from the Columbia River be sold to the United States and that power from the Peace River be sold within the province, to B.C. Electric. The latter, however, did not wish to commit itself to long-term purchases of Peace River power, which promised to be more expensive than that available from the Columbia River. At the time, the provincial government was involved in difficult negotiations with both the U.S. and federal governments over the nature of the Columbia River project. To strengthen its position it was necessary to ensure the private company's support for its plans, and the government proceeded to do so with nationalization.

The nationalization of power companies - including, pre-eminently, the Shawinigan Light and Power Co. - that took place in Quebec in 1963 essentially completed the extension of Hydro-Québec throughout the province. This action differed from the earlier nationalization, when the motive was control of the utility's level of prices and profits. While there was some concern about price structure - i.e., a desire to establish more uniform prices throughout the province - the major issues appear to have been social and developmental. The province wished to have better control over the development of its hydro-electric resources, and it also intended to use the companies as an instrument to develop francophone managers and expertise from within the province. These objectives were sufficiently vague and politically sensitive, and the government was sufficiently eager to proceed that a process of negotiation with private-sector companies was not feasible.

For the nationalizations in both British Columbia and Quebec, there was another, legal factor cited as justification: the fact that provincially owned utilities would not be required to pay federal income tax. Indeed, this was the sole reason made public by the B.C. government at the time. It is commonly accepted, however, that the motivations cited above were the primary ones.

In reality, the independence of these corporations is much more constrained than the formal structure suggests. All three governments have intruded in a direct and detailed way in the utilities' deliberations about both capital expenditures and prices. Moreover, consistent with the origins of the utilities, these interventions reflect a variety of motives on the part of government: equity, economic stabilization, growth, and industrial strategy. The manner of intervention varies. Depending on the political implications of the issue, government involvement can be either very public or confidential.

A number of examples of government intervention can be cited. The government of Ontario requires Ontario Hydro to subsidize rural electric prices and has altered the *Power Corporation Act* accordingly. It has also moved to prevent Hydro from instituting seasonally based rates to reflect the higher cost of peak-load electricity in winter — a change that would have been costly for northern Ontario. Similarly, the government of Quebec has acted to lower the rates charged by Hydro-Québec to the residential and agricultural sectors. Both B.C. Hydro and Hydro-Québec have used concessionary rates, at government direction, to encourage specific industries in specific regions. In Quebec, as a budgetary measure, the government instructed Hydro-Québec to institute rate reductions for companies undertaking new industrial investment. Perhaps the most notable instance of a government intervening directly in a capital expansion program was Quebec's instructing Hydro-Québec in 1971 to begin the James Bay development — again, for reasons tied to provincial development. While Ontario has been less inclined to use rates to encourage industrial activity, it has become directly involved in the utility's capital expenditures. It has directed investment for purposes of regional development and has altered the rate at which projects proceed for purposes of economic stabilization.

Appropriateness of the Roles and Objectives

From the previous description, a number of questions arise regarding the many roles these corporations play. Given the concerns associated with monopoly, the first question is whether the electrical industry is a natural monopoly.

The answer must distinguish between the three major functions of electrical utilities: distribution, transmission, and generation. Transmission and distribution involve extensive networks of wire. The initial capital cost of establishing such networks suggests that these functions are, in fact, natural monopolies and should not be duplicated within any one area. This is generally true for utilities where consumers receive access to a product through networks of pipe or cable. (Of course, this leaves open the optimal size of the area to be served by any one carrier.) Arguments about the existence of natural monopoly for electrical utilities pertain much more to the third function — generation. If it were not a natural monopoly, generation could be separated from transmission and distribution, and a competitive market could be created in the generation of electricity.

There is an ongoing debate in the United States about this proposition. To a large extent, the discussion reflects less the inherent advantages of monopoly and competition than a perceived breakdown in the regulatory process. In recent years, regulators in some U.S. jurisdictions have seemed unwilling to grant private producers adequate rates of return on new generating plants. Financial risks and costs of capital to the utilities have risen as a consequence, exacerbating the situation, and it has been suggested that shortages of capacity may ultimately result. The development of competitive markets in generating capacity might represent a solution if it permitted the deregulation of generation.[4]

Of course, these problems have little parallel in Canada.[5] Indeed, as the generation of electricity has largely been made a public function in this country, regulatory failure of the U.S. type is not possible. Neither government nor regulatory agencies have generally prevented utilities from building sufficient capacity, and the cost of capital is determined by the credit of governments.

More generally, there is little data to suggest that any Canadian utility is sufficiently large that it suffers from diseconomies of scale with respect to distribution, transmission, or generation. Moreover, there may be economies associated with the integration of generation and distribution; that is, it could be that the costs and risks of constructing large central generating stations are so great that they would be built only with a contractually guaranteed demand for, and return on, capital. Thus the nature of the contract might require that the production and distribution functions be largely reintegrated.[6] In addition, as already indicated, provincial involvement in these utilities often stems from broad developmental objectives, and these frequently attach to the generation function. For this reason, as well as more purely economic considerations, any attempt to separate the generation and distribution functions to create competition in the former would be problematic.

Pricing Issues

Our final comments on objectives per se concern the manner in which prices are set by the electrical utilities. Both in buying and selling electricity, the

corporations set prices at levels that do not maximize economic efficiency.

Even with large-scale generation dominated by provincial utilities, there are opportunities for electricity to be produced privately and sold to the utilities for distribution. Much of this potential lies in cogeneration — the production of electricity jointly with other products. The extent to which such opportunities are exploited will depend on the prices paid by the utilities in making these purchases. As noted above, all three of the utilities are given mandates to purchase electricity; however, the principles to be followed in doing so are not spelled out in the Acts. To maximize efficiency, the private production of electricity should be encouraged to the extent that the associated costs are less than those in public production, and the price at which the utilities purchase private production should be set accordingly.[7]

More importantly, electricity is also sold by the provincial utilities at prices below those which would induce efficient use. As a rule, prices are set as low as possible, consistent with financial soundness. Thus the revenue earned is sufficient to meet the financial requirements of the corporations. In several respects, though, these requirements understate the opportunity cost of the resources used. This is particularly true of returns to capital. For the most part, little or no return on equity is earned, and the interest paid on debt is low because of government guarantees. (Hydro-Québec is a partial exception, to the extent that it does earn returns and pay dividends on equity.) In addition, the rents paid to provincial governments on water resources are minimal, and the profits earned on exports subsidize the domestic price of electricity. The consequence of this underpricing are sales of electricity for which production costs exceed returns.

In recent years there have been several attempts to put numbers to these losses. One study, examining 1980 figures, concluded that Canadian electrical utilities' earnings on capital were on the order of one-half of economic opportunity cost. Another assessed forgone rents on water rights in 1979 at $4 billion in Ontario, Quebec, Manitoba, and British Columbia. A third examined the economic loss to Canada of, first, the overproduction of electricity as a consequence of underpricing and, second, the related cost of investment distortion that results from appraising projects using interest rates that, again, reflect financial rather than economic costs. The estimated loss ranged from $1.4 billion to $2.4 billion in 1978, depending on assumptions about the extent of demand for electricity.[8] All these estimates are very inexact, but they do suggest that the losses are major.

The prices at which the utilities both buy and sell electricity were extensively discussed in a previous Economic Council study of energy policy entitled *Connections* (1985) and are analysed therein at greater length. As for the appropriate return on capital for government enterprise, it is considered in a more general way later on, in Appendix A.

The Choice of Government Enterprise

Is government enterprise the appropriate form of intervention in the electricity industry? This requires us, first, to consider how public enterprise compares with other instruments that could be employed to address the problems that arise where a single supplier faces many purchasers.

It is possible to envision customers in such markets banding together to negotiate with a producer on their own behalf were it not for the problems inherent in organizing large numbers. Organization costs and "free-rider" problems make it extremely difficult for consumers to act as a unified group. It is therefore necessary for government to act as an agent for customers — undertaking the required negotiations, and monitoring and enforcing any subsequent agreement on their behalf.

As we have noted, the initial attempt by governments to fill this role through franchise agreements with private monopolists generally proved unsatisfactory. Of the subsequent alternatives, regulation of private producers can be viewed as a form of contractual arrangement, but one in which there is continuous recontracting through a process of regulatory hearings. What is essentially an "administered contract" is arranged, in which certain broad basic principles are specified and in which specifics like prices are left to be determined over time, subject to the judgment of a government-appointed regulatory body. Regulation, like government enterprise itself, is thus an attempt to respond to the need for an arrangement that provides the two parties (the party committed to make the investment and the party depending on the resulting services) with a degree of long-term security, while at the same time allowing for adjustments to an uncertain future. This added flexibility provides both regulation and public ownership with an important advantage over the more standard, long-term contractual arrangement, where unforeseen events can result in major gains or losses for either party.

While regulation meets a legitimate need, it is nonetheless a highly imperfect control mechanism. Regulatory agencies typically attempt to control prices by allowing private firms to earn a "fair" rate of return on capital, as determined on the basis of the earnings in other industries of similar risk. If prices are permitted to rise as costs do, there may be little incentive

to restrain waste and to be dynamically efficient — to develop and use cost-saving technology. As a consequence, regulators often come to impose controls over the production process as well. These are difficult to establish and enforce, however, and they add to the resource requirements of what is already a very costly regulatory process.

With public enterprise, these sorts of control problems are not avoided; they are simply internalized. The problems that regulatory agencies confront in controlling private monopolies and that governments confront in controlling public monopolies are, in fact, very similar. In both cases the relevant authorities have access to fairly detailed information[9] on firm behaviour, and they are faced with the problem of utilizing this information, along with the levers at their disposal, to create the incentive for efficient corporate performance.

Comparisons of the efficiency of public and regulated private electrical utilities within Canada are not possible because of the different natural-resource bases of the producers, the impact of numerous government objectives on operations, and the general lack of private firms. The U.S. comparisons generally conclude, however, that there is not a substantial difference between the two organizational modes.[10] This is consistent with the fact that regulatory authorities overseeing the private firm, and the politicians and government bureaucrats overseeing the public firm, are on essentially equal footing in terms of their capacity to assess performance and eliminate waste and inefficiency.

While it is difficult to distinguish between public and private firms in terms of productive efficiency, there may be important differences between the two with respect to their impact on allocative efficiency. This brings us back to the concerns raised in the previous section about the inappropriate pricing and investment decisions of provincially owned utilities. As we have noted, the costs of the resulting misallocation of resources appear to be substantial. Private electric utilities are not completely immune from these sorts of problems. Regulated private firms also benefit from relatively favourable borrowing terms; while this is a reflection of their relatively low degree of risk, it can be argued that here, as in the case of public firms, market risk has been artificially reduced through government intervention. Even accepting this, the degree of misallocation associated with public ownership will tend to be greater. Private firms have a lower debt/equity ratio than public firms; they must pay corporate taxes; and, unlike public utilities, they are required to earn a competitive rate of return on their equity.

In assessing this aspect, it is necessary to appreciate that the pricing and investment decisions of public firms are a reflection of government-policy objectives. The distortions that have occurred under public ownership are not an inherent feature of this organizational mode. If provincial governments could accept pricing behaviour that was closer to that required for economic efficiency, a change to private ownership would not offer any advantages in this respect; conversely, if governments could not accept a change in the way prices are set, neither would they be likely to accept an organzational change that would result in new pricing arrangements.

The impetus for the growth of public ownership in the recent period has come, as we noted, not from efficiency considerations but from the opportunity that public enterprise offered for governments to pursue a number of broader policy objectives. To the extent that electric utilities continue to be used in this manner, public ownership is necessary. There is reason to question some of the objectives for which public utilities have been employed. In particular, the subsidization of electricity prices to induce private firms to invest for stabilization or development purposes will tend to result in the inefficient use of electricity. It is preferable to provide assistance through generalized subsidies or rebates, which would not have the dual effect of encouraging excessive energy use. There is also need to take account of the consequences of multiple objectives for the task of control; there has often been too little consideration given to how the imposition of additional responsibilities complicates the assessment of public-enterprise performance. Utility investment, however, represents a large proportion of the expenditures subject to direct control by provincial governments, and it is unreasonable to expect governments to forgo the opportunity that such spending provides. There is, in particular, a case for manipulating investment by utilities for macroeconomic stabilization.[11] Here, timeliness and certainty are an important consideration. Even if it were possible to stimulate private investment, it is likely that the lags and variability involved would far exceed those associated with, say, simply instructing a utility to accelerate or to slow planned construction.

There is an additional point to be made regarding the nexus between instrument and objectives. It is not only the case that objectives determine the choice of instrument; the nature of the instrument may also affect objectives. This possibility was noted in Chapter 3 as a potential disadvantage of government, as opposed to private, enterprise. There is a temptation for government to change the objectives of public policy to afford protection to a government enterprise. It is often difficult to establish with certainty when this process occurs, particularly since the same effect is not wholly absent for private corporations that are a major economic presence. Within Canada, the contrast between public and

private corporations in this regard is more clearly seen for telecommunications, discussed below. Suffice it to note that for the electric utilities there have recently been a number of instances in which governments acted in a manner consistent with this hypothesis. The existence, recently, of excess capacity at Ontario Hydro was accompanied by a decision of the provincial government to promote energy self-sufficiency within Ontario by, among other things, increasing the market share of electricity. In British Columbia, the government has removed restrictions on the long-term export of power from that province, at a time when B.C. Hydro also suffers from substantial excess capacity.

Control Issues

In recent years, the nature and degree of control exercised over the electric utilities have been the focus of considerable attention. The utilities have, on occasion, been accused of being "out of control." For the most part, such controversies have arisen around capital expenditures and have related to the building of excess generating capacity or to the choices made in designing that capacity.

In all three provinces government control begins with the right to appoint the boards of directors, as well as the chairmen of the boards and chief executive officers of the companies. The corporations are required to submit annual reports to the Cabinet, and ultimately to the legislature. Cabinet is given the right to veto capital projects and borrowing. Cabinet responsibility for the utility is handled primarily by the ministry responsible for energy matters, with input from the finance ministry on questions of debt and borrowing. In all cases, the outside auditors are appointed by Cabinet, and an annual financial audit is performed.

The approval process for price changes differs among the provinces. In Ontario, prices are set by Ontario Hydro, although, since 1974, the Ontario Energy Board ha reviewed the utility's requests and advised the government on the suitability of proposed changes in rates to large industrial customers and to municipal utilities. Through hearings, the Ontario Energy Board assesses Hydro's financial projections; its associated short-term load forecast; and, occasionally, aspects of Hydro's efficiency. In British Columbia, rate proposals are examined in public hearings held by the British Columbia Utilities Commission, established in 1980. Unlike in Ontario, however, the Utilities Commission actually regulates hydro-electricity rates, subject to explicit Cabinet instruction. While Quebec does not use independent commissions to review or regulate rates, Hydro-Québec's rate changes are subject to government approval, and its rate proposals are submitted to a standing parliamentary committee for review.

Both the Ontario and B.C. governments have also used independent commissions and public hearings to assess the capital expansion programs of the utilities. The Utilities Commission in British Columbia has been used in this manner, but only in an advisory mode (unlike its role with respect to pricing). The Ontario government has used a variety of temporary commissions, including royal commissions, to examine various aspects of Ontario Hydro's capital projects.

The role played by the provincial legislatures in the control process varies from province to province and over time. Although questions concerning the utilities do arise in the legislature as a whole, the greatest part of legislative overseeing occurs in committees. In Ontario, in the recent past, select legislative committees have been very active and thorough in examining some aspects of Ontario Hydro's activities during periods of minority government. With majority government, the level of supervision has dropped dramatically, being limited to the occasional examination of selected matters by standing committees. In British Columbia, in 1979, a standing legislative committee on Crown corporations was established that had a permanent staff and included in its mandate the supervision of B.C. Hydro, among others. On one occasion, it undertook an extensive audit of B.C. Hydro's construction practices. The committee was abolished in 1982, and since that time there has not been any extensive legislative supervision of the utility. In Quebec, the role of the legislature's standing committee on energy in reviewing prices has already been noted. While the committee also questions Hydro-Québec about its affairs generally, it does not have the staff to do extensive research; nor does it conduct systematic investigations of either Hydro-Québec's forecasts or past performance.

How well has this apparatus of control performed? First, there is little evidence that these corporations are "out of control" in any absolute sense; that is, where governments are determined and have clear objectives, they are able to impose their will. Indeed, as the discussion of objectives indicated, such control can go well beyond the powers of government suggested by the relevant legislation. Where political will and monitoring is lacking, however, and where the corporations' self-interest potentially diverges from the public interest, control problems can occur. Self-interest, in this sense, is probably best defined as the continued growth of the corporation. Monitoring must be carefully attended to in these cases, as these monopolies possess resources and objectives that provide no obvious corporate yardstick for comparison.

There is evidence suggestive of a number of control problems in this limited sense:

- In recent years, all three utilities have suffered from substantial overcapacity. In Ontario and British Columbia, at least, this has resulted primarily from overoptimistic forecasts made in the 1970s of electricity demand in the 1980s. Of course, in assessing such forecasts, account must be taken of the fact that this was a particularly difficult period for energy forecasters. There were large swings in economic activity and unparalleled changes in relative energy prices. Despite this, in all three provinces, comparisons of long-range load forecasts made by the utilities with those from other sources indicate that the utility forecasts were high even when compared with contemporary alternatives.[12]

- When the utilities are given multiple functions that impinge upon their primary role — the production of electricity — the execution of these functions may be subordinated to the primary role. Thus there is some evidence that the electrical utilities have maintained the prices that they pay for privately produced power at levels lower than efficiency would require. The lower such prices, the less private power is produced and the greater the demand for the utilities' power. Of course, the calculation of an efficient price is not a simple matter. In general, however, the reasoning that lies behind these prices has not been subjected to adequate public scrutiny. Similarly, the enthusiasm for the conservation mandate that the utilities possess seems to depend on the extent of their excess capacity. Certainly another potential source of such conflict would be the mandate to import, rather than produce, electricity, though we have no relevant evidence.[13]

- Some evidence of waste and inefficiency in these corporations' operations and construction projects has been discovered by control agencies. Probably the best example is the inquiry conducted by the standing legislative committee in British Columbia into B.C. Hydro's construction practices.[14] In general, however, the possibility of inefficiency is not adequately monitored, at least in public, by the public auditors, the legislature, or other control agencies.

There is a need for additional public auditing of the public utilities to avoid these sorts of problems. To some extent, it may be possible to reduce the need for auditing by changing the mandates of corporations so as to limit the degree of management discretion in problematic situations where objectives conflict. Thus there may be a good argument for providing these utilities with operational responsibility for promoting energy conservation, because of the capabilities and reach of their personnel. This could be done, however, by limiting their role to administering the program, leaving program design in the hands of government.

Given the need for additional review, in what institutions should it be centred? An answer to this question requires that consideration be given both to what has been demonstrated acceptable and effective by provincial governments and to what constitutes an optimal control system. In our view the mechanics of control should be as public as possible, and a high degree of operational autonomy should be extended to the enterprise. (We elaborate on these principles in Chapters 8 and 9.) Accordingly, the central instrument for monitoring and control should be an independent commission.

A system that is characterized by openness and broad participation may confer certain public benefits quite aside from those associated with the task of simply monitoring the activities of the enterprise. Commission proceedings provide an opportunity to determine and assess public response to what are often essentially political decisions. There is an ongoing need, for example, to establish priorities among the multiple objectives assigned to public utilities. When these decisions are informed by public hearings, they acquire a legitimacy that they might not otherwise have.

The alternative to a commission would be the more extensive use of parliamentary committees for monitoring. Such a proposal would be problematic. Obviously, parliamentary committees represent a far more political forum than does a commission. As a rule, the governments in question have not shown themselves to be consistently willing to provide these committees with the mandate and support they require to undertake effective supervision. Such reluctance may reflect, in part, the variety of purposes for which governments use the electrical utilities.

For an independent commission to assert regulatory control, government must enunciate clear and stable guidelines to govern its deliberations. As we have discussed, however, decisions on capital expenditures in this sector are often situational and involve trade-offs between multiple objectives. In particular, if the utilities are to be used for economic stabilization, it is necessary for government to retain final authority over capital spending. The commission could support government decision making in this area, but its role should be advisory. By contrast, for pricing it is plausible and desirable that the commission be given regulatory power.[15]

Accordingly,

4.1 We recommend that publicly owned electrical utilities be monitored closely by independent commissions that would (a) regulate prices; and (b) advise governments on capital expenditures. These commissions should focus particularly on the possibilities for improving efficiency; on effectiveness in achieving multiple objectives; and on whether, and to what extent, expansion of capacity is warranted.

The commission's regulatory authority should cover the rates at which the utilities purchase privately produced power, as well as the prices at which they sell power. It should encompass both the level and the structure of rates, based on principles enunciated publicly and subject to government approval or override.

There are a number of dimensions to assessing capital expenditure. It will be necessary to estimate required capacity, taking into account both demand and optimal reserve capacity, the latter determined by trading off the costs of additional capacity against the benefits of greater reliability. Alternate technologies and sources of supply must be judged as well, considering both cost and environmental factors. Among the alternatives that must be weighed is the possibility of importing electricity from other jurisdictions rather than producing it.

The commission will be required to judge the utility's forecasts — both the short-term forecasts underlying price changes and the long-term forecasts supporting investment plans. A regular review of long-term forecasts will be required to judge the pace at which capital investment proceeds. The assessment of technologies and reserve margins should be a fairly infrequent exercise, unlike the examination of forecasts and price changes. Moreover, as the expertise required for the latter functions differs from the former, it may be desirable to use different bodies for these tasks.

Both in regulating prices and advising on capital expenditure, the commission will engage in pre-decision control of a utility; that is, it will examine the consequences of corporate plans and decisions before they take effect. This is quite unlike the role played by shareholders in most private corporations, where supervision is post-decision — an evaluation of management's past effectiveness. This distinction is elaborated upon and discussed further in Chapter 8. The commission, however, should also fill the role of post-decision monitor and examine management's effectiveness in minimizing waste and achieving the utility's multiple objectives, like conservation. Indeed, questions of this sort, covering waste and expenditure, would arise naturally in the course of hearings on electricity prices. In either of its roles as monitor, the commission must have access to adequate resources and to timely, systematic, and comprehensive data on the operations and plans of the utility.[16]

Telecommunications

This section focuses on the four publicly owned telephone systems in the Prairie provinces: Edmonton Telephones (ET), Alberta Government Telephones (AGT), Saskatchewan Telecommunications (ST), and the Manitoba Telephone System (MTS). Table 4-2 places these alongside the other private corporations that comprise the 10 largest telephone companies in Canada. The table also provides some indication of the fragmented pattern of regulation that exists in the telecommunications sector. Provincial bodies regulate most telephone companies, notwithstanding federal authority over interprovincial telecommunications and the broad interpretation given this authority by the courts.[17] The federal regulatory authority, the Canadian Radio-television and Telecommunications Commission (CRTC), regulates Bell Canada and B.C. Telephone, and their activities in most of Ontario, Quebec, and British Columbia. One of the public corporations, Edmonton Telephones, does not report to a regulatory agency, only to the municipal government.[18]

The telecommunications industry comprises a variety of organizations, in addition to the telephone companies. Some of these compete with the telephone companies in a number of markets — for example, in long-distance services for business customers; mobile telephones; and the sale, rental, or maintenance of terminal equipment on customer premises. Other entities in the industry provide services that complement those of the telephone companies. The most important of these is Telecom Canada — an unincorporated association that is itself almost wholly comprised of telephone companies. In this forum, the main telephone companies coordinate facilities and establish rates, standards, and the division of net revenue for a number of long-distance and nontraditional services offered by members within Canada. They also coordinate relations with connecting U.S. carriers. Telecom Canada, as such, is not regulated, though its members are. Of course, the fact that many of their long-distance rates are set jointly makes effective regulation of the individual telephone companies particularly problematic. The one member of Telecom Canada that is not a telephone company is Telesat Canada. This entity, which is jointly owned by a number of telephone companies and the federal government, provides long-distance satellite communications and is subject to the regulatory authority of the CRTC.[19]

Development of Public Telephone Companies

The four public telephone systems on the Prairies share parallel histories, all having been founded within a few years of each other prior to 1910, and for similar reasons.[20] The alternative to public systems was a private monopoly operated by Bell Telephone. This prospect raised fears similar to those which led, in the first instance, to the creation of public electric utilities. In particular, there was apprehension that Bell would earn excessive profits at the expense of subscribers and that

Table 4-2

Ten Largest Canadian Telephone Companies, 1985

Name of carrier:	Operating territory	Ownership	Regulator	Telephone lines in service (Thousands)	Operating revenue ($ millions)
British Columbia Telephone Company	British Columbia (except Prince Rupert and far northern sectors)	50.1 per cent owned by Anglo-Canadian Telephone Co.	CRTC	1,525	1,217
Alberta Government Telephones	Alberta (except City of Edmonton)	Crown corporation, wholly owned by Province of Alberta	Alberta Public Utilities Board	772	1,049
Edmonton Telephones	City of Edmonton	City of Edmonton	Unregulated; reports to City Council	332	206
Saskatchewan Telecom-munications	Saskatchewan	Crown corporation, wholly owned by Province of Saskatchewan	Saskatchewan Public Utilities Review Commission	509	424
Manitoba Telephone System	Manitoba	Crown corporation, wholly owned by Province of Manitoba	Public Utilities Board of Manitoba	487[1]	326
Bell Canada	Ontario (except northeast); Quebec (except for areas served by Québec-Téléphone); and eastern Arctic	Wholly owned by Bell Canada Enterprises Inc. (BCE)	CRTC	7,092	5,769
Québec-Téléphone	Gaspé; north shore, Montmagny area of Quebec	51.0 per cent owned by Anglo-Canadian Telephone Co.	Régie des Services publics (Quebec)	221	177
New Brunswick Telephone Company, Limited	New Brunswick	30.7 per cent owned by BCE	Board of Commissioners of Public Utilities (New Brunswick)	459[1]	244
Maritime Telegraph & Telephone Company Limited	Nova Scotia	31.4 per cent owned by BCE	Board of Commissioners of Public Utilities (Nova Scotia)	385	310
NewTel Enterprises Limited[2]	Western Newfound-land; Avalon Peninsula; Labrador	53.4 per cent owned by BCE	Board of Commissioners of Public Utilities of Newfoundland and Labrador	146	137

1 Telephone sets.
2 Formerly Newfoundland Telephone Co. Ltd.
SOURCE Annual Reports and *Report on Business* magazine, July 1986.

it would not be prepared to extend service to thinly populated, rural areas at affordable, perhaps unprofitable, rates. The latter issue assumed particular importance in the Prairie region, given the dispersed settlement and the distances involved. These concerns were heightened by the West's earlier experience with the monopolistic railroads and, associated with that, its resentment of Bell as an eastern imposition.

Controlling Bell to meet public objectives was far more problematic than controlling the private electric utilities. Bell had been present in the region from the 1880s. While there were various municipal and municipally franchised systems, these were at a disadvantage because of Bell's ability to refuse them access to its long-distance network. Unlike electricity, the value of telephone service depends on the size of the network to which a subscriber has access. Thus if the interconnection of networks is not permitted, larger networks possess an inherent advantage over smaller ones. Moreover, Bell had been given a federal charter in 1892 that permitted it to erect lines in any town. It was therefore impossible for western municipalities to deny or control its access. Furthermore, because of its role in interprovincial telecommunications, it was impossible to regulate or expropriate the company locally.[21] The sole recourse for governments wishing to ensure local or provincial control was to create public systems that could undercut the private monopoly.

Edmonton Telephones was established in 1904, when the city purchased the assets of the existing, private franchisee. A year later, the new provincial government in Alberta became the first to build lines and compete with Bell. In 1908 the company sold its assets to the province, which then proceeded to form AGT. Manitoba and Saskatchewan began construction of provincial systems in 1906 and 1908, which led to the purchase of Bell's assets in the two provinces in 1908 and 1909, respectively. Initially, western municipalities and rural areas were often given the option of handling local distribution on their own and interconnecting with long-distance provincial lines. For a variety of technical and financial reasons, however, these local systems gradually disappeared, the outstanding exception being ET. The major reason for maintaining ET's independence was the city's desire to avoid paying rates that would subsidize rural service.

In several respects the subsequent histories of the provincial systems were also broadly similar. The public telephone companies all had mandates to provide universal service at affordable rates. But provincewide service of the quality desired was not achieved as quickly or as cheaply as had originally been expected. As late as the 1960s, on government instructions, AGT embarked on a major program of laying cable throughout the province to upgrade rural service. All three provincial utilities experienced financial difficulties at various times in fulfilling their mandates. To some extent these early financial problems resulted from inadequate accounting for capital depreciation and thus from rates that were set too low. All the utilities are now required to be self-supporting, with their rates set to defray the long-term cost of capital. Sasktel and AGT were originally structured as sections of government departments, though they were given a great deal of operating autonomy. Only in 1947 and 1958, respectively, did they become public enterprises, partly for operational ease, but also to reflect the requirement that they be financially self-sufficient. By contrast, MTS was run by a commission from 1908 — almost from its inception. But it, too, incurred initial losses that reflected political control and that led to increased autonomy subsequently. Of course, ET never had a mandate to extend rural service, never experienced the financial problems of the provincial systems, and remains a department of the municipal government.

It is still the case today that, apart from operating an efficient telephone system, the major public-policy objectives of these companies pertain to subsidizing certain rates and to providing moderately priced, universal service. Given the further requirement that telephone service be self-supporting, it is necessary to set rates on some services to exceed costs in order to defray the losses incurred from other rates' being set below cost. As noted previously, prices that depart from costs may lead to economically inefficient use of the service. Undoubtedly, a number of considerations — some political — enter the calculation of such cross-subsidization. The utilities generally cite a couple of principles: system-wide averaging, which involves rates that do not vary throughout the province for any one class of customer; and value-of-service pricing. As an example of the latter, an urban customer will pay more than a rural one for local service because of the greater number of callers available through the local network. The general result is the subsidization of residential service by business customers, of rural service by urban customers, of local service by long-distance service, and of basic by ancillary service; the precise extent of such subsidization is moot. The first two were also evident, though perhaps not to the same extent, in the pricing of electricity.

To recall the discussion of the previous section, the use made by government of the electric utilities has changed over the past 25 years. In addition to their earlier distributional mandate, they later came to be used for economic development and stabilization. That type of role change has been much less characteristic of the public telephone companies, though it has not been wholly absent. All three provincial systems give preference to suppliers with local operations. One consequence

is probably the uneconomic fragmentation of certain industries like cable manufacturing. As well, the companies themselves undertake to develop new technologies and products to some extent, and they seem to do so with a view to their impact on research or employment within the province. This is probably most true of AGT.

Public vs. Private Enterprise

What can be said about the suitability of public enterprise for both the commercial and public roles of the telephone carriers? With respect to the commercial role — essentially that of operating a telephone company efficiently — a study for the Council[22] found little difference between the performance of the public systems and several of the regulated private carriers operating elsewhere in Canada. It concluded that in the recent past the two have performed similarly, in terms of both the range and the quality of output offered, and of the efficiency with which it is produced. Of course, any comparison of this sort can only be a broad one. Differences between the systems, including terrain and customer base, prevent exact comparisons.

Apropos this conclusion, it is possible to identify a number of advantages that the public systems possess. First, despite some involvement in developing new technology, as already noted, these companies are generally not vertically integrated with associated manufacturers of equipment — unlike Bell Canada, for example. As a consequence, they are better able to choose between suppliers and to achieve maximum effect in purchasing equipment. In addition, the government companies, particularly in Alberta, have grown more quickly in recent years than most of their private counterparts. The result is that the systems are, on average, more technologically advanced.

The previous section cited U.S. studies that suggested there were no great differences in efficiency between public and private, regulated electric utilities. The conclusion reached here concerning the commercial performance of Canadian telephone companies is consistent with that judgment about the impact of institutional form. (There are no parallel U.S. data for telecommunications, as public telephone companies are virtually nonexistent in the United States.)

What can one conclude about the public role that the western systems are fulfilling? Does it justify their existence as public enterprises? As described above, their major public role consists of setting rates that cross-subsidize different classes of customer. In this respect, too, there is little basis for choice between private and public systems. The private companies appear to have performed the same function satisfactorily for many years, under the guidance of public regulators. Unlike the electric utilities, the public telephone companies have had only a marginal role to play in promoting other objectives, such as economic development and stabilization.

On the basis of past performance, then, there does not seem to be a strong commercial or public-policy case for choosing between public and private enterprise to deliver monopoly services in telecommunications. This is consistent with the historical record of institutional choice in Canada. Public ownership of electrical utilities continued to grow as the economic role of governments expanded after the war. The experience in telecommunications, however, was quite different. The four public systems in the West were in place by 1910. Since then, as governments have developed their ability to regulate private monopolies, there have not been major shifts from one institutional form to the other. The public systems discussed here were the result of specific legal and historical circumstances.

The conclusion of the preceding paragraph was directed only to the provision of monopoly services. In fact, until very recently, this encompassed almost all the services that these utilities offered. Important changes in recent years, however, have altered the structure of the telecommunication markets and have brought into question the role of governments in this sector.

Competition in Telecommunications

Within the past 20 years, a number of technological changes have placed in doubt the continued desirability or inevitability of monopoly in many aspects of telecommunications. Like distribution of electricity, to the extent that telephones require an extensive network of wire, more than one producer results in the duplication of expensive facilities. This remains largely the case for local service. Long-distance transmission, however, is now often done by radio, using satellite or terrestrial systems, which at least raises the possibility of competition. Ultimately, even wire for local service may be similarly supplanted. The advent of computers has added to the competitive impetus and has affected both the demand for telecommunications and the nature of the systems used. The increasing use of telecommunications to address and connect computers creates a demand for the transmission of data. As the quality of the necessary facilities differs from that required for voice, the possibility of separate, parallel networks for different purposes arises. Alternatively, it is now possible to construct digital networks capable of transmitting all voice, data, and facsimile messages. Ultimately, the effect of these developments is increased variety and

choice in the method of handling telecommunications. The same is true of the terminal equipment used on customer premises to connect with the network. Traditionally, telephone companies also monopolized the supply of this equipment. While there probably never was a particularly strong argument for this monopoly, it was of no great importance when such equipment consisted of standard, unsophisticated items. With the advent of semiconductors and electronic switches, the diversity and sophistication of terminal equipment has grown enormously. Now, if a monopolistic supplier of this equipment should be unresponsive to customer needs, sizeable losses in efficiency could result.

It is in the United States that competition in telecommunications has had its greatest impetus. There, the preeminent telephone company, AT&T, broadly dominated most aspects of telecommunications, including much of the supply of equipment (through the Western Electric Company). As in Canada, rates on long-distance services subsidized local services. From the 1960s, AT&T's monopoly was gradually eroded in a series of court cases under U.S. antitrust law and in decisions by the federal regulator, the Federal Communications Commission (FCC). The process was cumulative and difficult to control. For example, when AT&T attempted to meet the challenge on long-distance services by reducing rates on those services, particularly the bulk services most subject to competition, it ended up facing additional competition from companies prepared to purchase long-distance services at bulk rates and package them for resale. Moreover, the FCC found it increasingly difficult to manage rate setting, as AT&T began to straddle competitive and monopolistic markets more and more. As its monopoly became further circumscribed, AT&T itself chafed at restrictions placed on it in an earlier era as a consequence of its monopoly, preventing it from competing in related fields like data processing, which abutted increasingly on telecommunications.

The denouement, of course, was a far-reaching restructuring of the U.S. telecommunications industry: AT&T spun off what were essentially its monopolistic segments into a number of regional telephone companies. What remained within AT&T were the competitive, or potentially competitive, elements, including most long-distance services, as well as manufacturing and the sale of private telecommunications systems. These now operate in an environment that is substantially less regulated.

In Canada, too, technological change has evoked competitive forces, and these, in turn, have created strains within the traditional system of cross-subsidization. The sharp decline in long-distance rates in the United States has added to those internal forces. It raises the possibility of bypassing the Canadian telecommunications network and routing long-distance messages through U.S. systems. In addition, aside from any demonstration effect, the falling cost of business telecommunications in the United States has put competitive pressure on some Canadian firms.

Competition has not spread in Canada nearly to the same extent that it has in the United States. But important changes have occurred, particularly in markets under federal jurisdiction. The following represent a selective list of the major developments in this regard:

- The CRTC moved to create competition in terminal-equipment markets through a series of decisions made, for the most part, between 1980 and 1982. Both business and residential customers now have the right, subject to a few conditions, to attach their own equipment to Bell Canada and B.C. Telephone networks.

- CNCP Telecommunications has sought the right to interconnect its network with the local lines of the telephone companies in order to compete with the latter in providing a number of specialized services. Thus far, it has had only qualified success. In 1979 and 1981 the CRTC gave it limited rights to interconnect, but only for some voice services — long-distance services on private lines — and for the transmission of data. In 1985, B.C. Rail was given similar powers to interconnect with B.C. Telephone. In that same year, however, the CRTC denied an application that had been made in 1983 by CNCP for interconnect to offer the public long-distance services. In 1985, the Commission also moved to ensure the competitiveness of both public nonvoice and private local systems by requiring that these be permitted to interconnect with telephone companies.

- In 1981, the CRTC issued a decision requiring that Telesat Canada, which had previously provided satellite services only to telephone companies, do business directly with end-users, in competition with the telephone companies. Recently, the Department of Communications has permitted users to own earth stations for satellites, facilitating bypass of the public telephone network.

- Radio common carriers provide mobile-telephone and one-way paging services in competition with the telephone companies, under licence by the federal Department of Communications. In 1982, the Department of Communications called for applications to provide a new form of mobile-telephone service, using cellular radio technology, which improved upon previous technologies in terms of system capacity and ease of use. To ensure competition, the Department insisted on two licences in each area: one for the local telephone company, and the other for a competitor. The telephone company was to provide the latter with interconnect facilities. The private licences were ultimately awarded

to Cantel Cellular Radio Group. In 1984, the CRTC also broadly required that Bell and B.C. Telephone provide such interconnection.

- Cable television facilities represent a potential source of two-way communications and thus competition for telephone companies. Initially, Bell Canada provided access to facilities like telephone poles for cable TV, only subject to conditions prohibiting such competition. Eventually the CRTC insisted that such access be provided unconditionally. In recent years, the CRTC has authorized some experimental, interactive cable service.

- Unlike in the United States, the resale of telephone services by other companies has generally not been permitted by the CRTC. On the other hand, in 1985 it did refuse to act against companies in British Columbia that engaged in receiving calls to the United States at a border point and then transferring them along U.S. systems to U.S. destinations, generally undercutting B.C. Telephone rates to the same destinations. It has also sought to protect enterprises wishing not simply to resell telecommunication services but to enhance or add to them by processing data or messages. It enjoined the carriers to provide such companies with access to their systems, and it put the onus of proof on the carriers should they claim that such activity was merely resale activity.

Thus competition in various guises has begun to penetrate telecommunications in Canada where federal jurisdiction is exercised, though at a much slower rate than in the United States. In the Prairie provinces, however, the change has been slower still, with respect to all the developments described above. This divergence raises questions about the continued appropriateness of the objectives pursued by the government telephone companies.

Competition and the Prairie Telephone Companies

All four government systems now permit residential customers to own terminal equipment. But only in Alberta is business ownership of such equipment permitted. None of the three provincial systems permits even the limited form of long-distance voice interconnection that CNCP has been granted with Bell Canada and B.C. Telephone. CNCP is currently trying to obtain such rights in Alberta through the CRTC and the courts. The AGT system has begun to provide cellular mobile-radio service, but neither Saskatchewan nor Manitoba will allow Cantel to interconnect its cellular system with their networks. Given the Department of Communications' conditions for the award of cellular licences, such service is, as a result, offered in neither province. ST and MTS oppose interactive cable service and are virtually unique in North America in owning all television cable. Thus, barring a change in ownership, cable television will probably never represent a competitive technology in Saskatchewan and Manitoba.

Clearly, of the three provinces, Alberta has been the most receptive to competition, and it is possible to speculate why this is so. First, AGT probably serves a proportionately greater clientele of large businesses, requiring sophisticated telecommunications services. Second, there have been obvious differences in political orientation between Alberta governments and those in Manitoba and Saskatchewan. Finally, in some instances, the extent to which competition is accepted may reflect the desire of telephone companies or governments to protect, and keep financially viable, investments in alternative technology. For example, AGT had a long-standing commitment to develop cellular radio technology, while ST and MTS, which offer alternate mobile systems, have not been required to compete or interconnect with the private cellular radio service.

In *Reforming Regulation* (1981), the Economic Council broadly supported the encouragement of further competition in telecommunications, citing particularly the benefits anticipated from dynamic and technical efficiency — namely, the development and adoption of new technologies and services.[23] As competition has been substantially retarded in the Prairie provinces relative to most of Canada, the urgency of this recommendation is, if anything, greater on that basis alone. The general point was expressed clearly by the CRTC in a recent decision:

> ... if users are afforded a choice in the kinds of services they can obtain, they are required to define their telecommunications needs better than they would be if they had no choice but to accept what one supplier may suggest they need. This not only makes them aware of how to make more effective and productive use of telecommunications in their business, but having defined their needs, they are better able to require suppliers to respond to them with new or varied services, and suppliers have every incentive to anticipate their needs. This can in turn lead to the introduction of new services, using new facilities or new combinations of existing facilities, as well as stimulate the telecommunications manufacturing sector to develop equipment and facilities to meet an increased range of telecommunications requirements.[24]

There are further reasons, more specific to the Prairies, for challenging the reluctance to accept competition in these provinces. It was always the case that the fragmentation of Canadian regulatory authority over telecommunications was potentially inefficient. So long as the industry was relatively static and deployed

standard technologies, the resulting loss was minimized; however, this has become increasingly less the case. Canadian companies operating nationally and wishing to adopt or to sell one technology in, say, terminal equipment are hindered by the diverse regulatory regimes that now exist.[25] We noted previously that public systems had generally succeeded as well as private in terms of efficiency and the scope of services provided. It seems likely that this will be increasingly less true. The public systems are small relative to Bell Canada, for example. With the proliferation of technologies that has occurred, it is unlikely that they will be able to offer a comparable range of equipment and services or, if so, to offer them as cheaply as the private systems and their private competitors. Users in the Prairie region could thus be at a substantial disadvantage if regulatory restrictions in these provinces are not relaxed.

Given the advantages inherent both in competition itself and in the provision of a more consistent operating environment for Canadian users,

4.2 We recommend that the governments of Manitoba, Saskatchewan, and Alberta reduce regulatory restrictions that limit competition in telecommunications, so as to remove the disparity that exists between these provinces and those jurisdictions subject to federal regulations.

The differing competitive environments of the public and private systems in Canada raise a further aspect of instrument choice not dealt with previously — the impact of instrument choice on policy objectives. The different extent to which public and private firms have had to face competition suggests the possibility that the difference may reflect the desire of public authorities to protect government firms rather than the pursuit of other social goals. Of course, there was some indication of this effect for the electrical utilities as well. Table 4-3 very briefly summarizes the regulations concerning the attachment of three types of customer-owned terminal equipment — single-line telephones, key telephone systems, and private-branch-exchange (PBX) systems — for the 10 largest telephone companies. The extent to which restrictiveness appears to be correlated with public ownership is evident. There is some suggestive evidence on this same point in an international context: the existence of government-owned telecommunications companies has been cited as explaining the slowness with which European countries have accepted competition relative to the United States.[26]

Table 4-3

Terminal Attachment Policies of Canadian Telephone Companies

	Single-line telephones	Key telephone systems	PBX systems
British Columbia Telephone Company	Yes	Yes	Yes
Alberta Government Telephones	Yes	Yes	Yes
Edmonton Telephones	Extensions only	Yes	Yes
Saskatchewan Telecommunications	Residential extensions only	No	No
Manitoba Telephone System	Residential extensions only	No[1]	No[1]
Bell Canada	Yes	Yes	Yes
Québec-Téléphone	Yes	Yes	Yes
New Brunswick Telephone Company, Limited	Yes	Yes	Yes
Maritime Telegraph & Telephone Company, Limited	Yes	Yes	Yes
NewTel Enterprises Limited	Residential extensions only	Yes[2]	Yes[2]

1 Unless approved by the Manitoba Telephone System.
2 Subject to approval by the Board of Commissioners of Public Utilities.
Source Discussions with federal and provincial authorities.

Competition and Regulatory Control

Increasing competition in telecommunications complicates the task of regulators. The fact that telephone companies now deal in both monopolistic and competitive markets makes price setting a more difficult regulatory exercise. To protect captive customers and promote effective competition, the CRTC must ensure that telephone companies do not use monopolistic prices to cross-subsidize competitive prices. Where the CRTC has determined that other companies can interconnect with the telephone companies' monopolistic facilities, the prices charged for the use of these facilities must not foreclose competition.

A number of recent developments at the federal level pertain to this need for increased regulatory supervision. Bell Canada has reorganized to create separate structures for its regulated and unregulated activities. Regu-

lated telecommunications remain within Bell Canada, which is now a subsidiary of Bell Canada Enterprises. The latter also has a variety of other subsidiaries engaged in unregulated fields. This restructuring was a Bell initiative, not wholly related to increased competition within Canadian telecommunications, but it has also helped the CRTC to monitor costs within telecommunications. Among others, Bell's competitive cellular radio operation is now operated as an independent subsidiary. Accordingly, the CRTC has chosen not to regulate cellular rates, though it is now investigating whether some of this subsidiary's costs were not passed on to Bell's telephone operations. To deal with circumstances where organizational separation is not maintained, the CRTC has been conducting a major inquiry into the cost of telecommunications services, to guide in the setting of prices. To this point, unlike in the United States, there has not been complete divestiture of either competitive or monopolistic activities at the federal level. In a related situation in 1977, however, the CRTC did try to prevent Telesat from joining Telecom Canada, as the latter comprised telephone companies and the former could provide services to carriers competing with those telephone companies. The federal government subsequently overruled the CRTC decision in this matter.

All three provincial telephone companies must submit rate changes on noncompetitive services to their respective regulatory agencies for approval. Rates on competitive services are generally not reviewed. The boards in Manitoba and Alberta have played this role for many years. The Saskatchewan commission is fairly recent, only dating back to 1982. As noted earlier, ET has no regulatory agency, as such, but its rates must be approved by the municipal council. The provincial boards have generally been less active than the CRTC in fostering competition. Indeed, their power to do so is circumscribed in some cases by provincial governments. In Manitoba and Saskatchewan, for example, rules governing the attachment of privately owned terminal equipment to the provincial system are encompassed in the legislative mandate of the telephone companies.

Similarly, the provincial agencies have not, to this point, gone as far as the CRTC in trying to prevent unfair and inefficient cross-subsidization when telephone companies do engage in both competitive and monopolistic activities. As yet, none of the provincial utilities have reorganized as Bell did, and created distinct companies to operate in competitive and noncompetitive markets. Only in Alberta, for both AGT and ET, is there any substantial organizational separation within the utilities between divisions that produce for the two types of market, which facilitates the identification of costs. The determination of which activities are, in fact, competitive or noncompetitive raises further questions concerning cross-subsidization. This issue has probably been most carefully examined by the Alberta Board. However, some activities that the Board regards as competitive, like the sale of advertising for telephone directories, may actually be more nearly a monopoly. The Board applies only a very broad test to establish whether competitive sales as a whole are subsidized by monopolistic sales, and this leaves unexplored the possibility of cross-subsidization among "competitive" activities that might be attractive to a public utility that is not required to maximize profits.

Accordingly,

4.3 We recommend that the relevant regulatory authorities in Alberta, Saskatchewan, and Manitoba strive more intensively to identify the costs of particular services of public telephone companies, so as to ensure that their competitive activities are not being subsidized by their monopolistic activities. If such efforts should fail, however - and the experience of similar regulatory boards is not promising in this respect - we would urge the governments of the three Prairie provinces to consider, as a longer-run strategy, the possibilities for divestiture of the competitive activities of their telephone companies.

In raising the prospect of divestiture, we have been influenced by the lack of evidence that there exists substantial economies of scope of the sort that might justify the joint provision of competitive and monopolistic services.[27]

In one respect, however, the possibilities for separating monopolistic and competitive services are limited. Most long-distance telephone service continues to be treated as a monopoly activity. Under these circumstances any entity that provides all long-distance services, including private-line and data communications (i.e., competitive services), as well as public telephone services (i.e., monopoly service), will continue to require some degree of public regulation or control. The prospect that regulators will increase the scope of competition in long-distance services suggests that, in future, a more complete separation of competitive and monopoly services may indeed be possible. The public corporation could then be confined to the provision of monopoly services — the area in which government intervention is most clearly justified.

Urban Transit

In Canada, urban transit is provided publicly for the most part. The manner of provision varies. Some cities establish independent transit commissions or corporations, while in others transit is more fully integrated with other municipal departments. In British Columbia, a

provincial corporation, B.C. Transit, plays a leading role. Where commissions are established, they generally have a sufficiently independent structure to conform to the definition of public enterprise that we adopted in Chapter 2. Unlike electricity and telecommunications, in almost all cases transit service is operated at a deficit.

Though public transit predominates, a large number of municipalities continue to contract with private operators to provide the service. Table 4-4 classifies urban transit systems by ownership and province. The numbers of public systems and those which are wholly or partly private are almost equal; however, the latter are limited almost entirely to very small cities. No city in Canada with a population greater than 100,000 uses a privately operated system.

Table 4-4

Urban Transit Systems, by Type of Ownership and by Province, Canada, 1984

	Number of systems[1]			
	Public	Private	Mixed[2]	Total
Newfoundland	2	—	—	2
Prince Edward Island	1	—	—	1
Nova Scotia	5	—	—	5
New Brunswick	3	—	—	3
Quebec	9	25	1	35
Ontario	34	13	13	60
Manitoba	2	—	—	2
Saskatchewan	3	2	2	7
Alberta	6	4	—	10
British Columbia	8	—	18	26
Total	73	44	34	151

1 Only fixed-route systems are included.
2 In mixed systems, vehicles are publicly owned but privately operated.
SOURCE Provincial authorities for all provinces except Manitoba. For Manitoba, Canadian Urban Transit Association data on member systems.

There are a number of issues associated with urban transit. Our interest is in the experience with different organizational arrangements, as these provide an important, additional perspective on the general problem of choosing instruments for public control of monopoly. Aside from the interest that it holds per se, experience in the urban transit sector is directly relevant to a number of other municipal services that are monopolies. Examples include such activities as fire protection, snow removal, street cleaning, and garbage collection. Unlike transit, most of these services are not provided through commercial public enterprises. Nevertheless, much of the discussion here of private contracting is more widely applicable to these monopoly services and, indeed, to a variety of other municipal and government functions that are not monopolies.[28]

Government involvement in municipal transit can be traced to a number of factors. Transit has monopolistic characteristics, at least within any area, as a result of the need for a scheduled and coordinated system. It may also exhibit economies of scale, resulting in part from the increased frequency of service associated with more riders. As well, transit is subsidized and run at a loss by government. A number of reasons for this are often cited: the fact that transit is patronized by, and sometimes essential for, a low-income clientele; the fact that it reduces the externalities of pollution and crowding associated with private vehicles; the possibility that private-vehicle users do not fully pay for the infrastructure they require; and the fact that if the service does exhibit economies of scale, economically efficient pricing requires that fares be set below average cost.

Public vs. Private Operators

To some degree, the history of instrument choice in public transit resembles that of other utilities.[29] At the turn of the century, contractual arrangements with private operators were common, even in the large cities. In fact, the electrical and transit companies were sometimes linked, the latter being a major customer of the former. And like the electrical utilities, transit involved capital that was both substantial and long-lived. To provide the owners of a transit system with the long-term assurances they required, contracts often ran for 30 years or more.

In the context of this time frame, it was impossible to anticipate adequately changes in the nature of the supply and demand for transit. Whether such change concerned details specified in the contract or simply left unspecified, it often led to disagreements between contractors and municipalities, especially since the revenue of the operators generally depended upon fares fixed by the contract. For example, disputes arose over extending unprofitable service to new areas, this often being desired by the city to encourage development. Changes in the design and technology of equipment occasioned further disagreements over standards of service. As a contract neared its end, the operator lost incentive to maintain the system properly to the extent that contract renewal appeared unlikely.

All these aspects of contract failure were common to the other monopolies as well. But there was another element unique to this industry: declining demand for the service, primarily because of the spread of motor vehicles. As the private operators struggled to maintain profitability, service deteriorated and public dissatisfaction grew. For the reasons cited above, governments stepped in to maintain the size of unprofitable systems; generally, they did so by assuming direct control of the transit system and operating it at a loss.

Despite this history, the contractual system in transit did survive in small centres. This can be attributed to some of the important advantages of contracting over alternatives like public production and regulation. With a franchise arrangement, many of the benefits of competition are retained: competition within a market is effectively replaced by competition for a franchise to serve the market. Unlike regulation or public ownership, there is an incentive for efficient performance, since any reduction in costs redounds to the benefit of the private operator. There is also pressure on the private operator to maintain quality standards and to fulfil effectively the terms of the agreement, since he must be prepared periodically to defend his contract against competitors. At the same time, bidding for franchises ensures that the gains from efficiency ultimately accrue to the public rather than the contractor.

Moreover, contracting-out can avoid the distortions within government associated with the establishment of a new public institution. In particular, to the extent that contracts result in an apparatus for planning that is separate from operation — the former in public hands and the latter in private — there is less possibility of planners benefiting by building systems that exceed public demand.

There is considerable empirical evidence substantiating the low costs of contractual systems. Comparisons of the cost of providing monopoly services publicly or through regulation tend to show no great differences. This was noted in previous sections, with respect to both telecommunications and electricity. But U.S. studies almost uniformly show that the provision of municipal services, including transit, through competitive contracting reduces costs relative to public provision. To some extent this may reflect wage differentials; however, there is also ample evidence of savings in the use of resources and in capital and labour per unit of output. A recent study for the Council, which attempted to test this proposition by examining municipal transit systems in Canada that are subject to alternative organizational structures, reached similar conclusions.[30]

Given these advantages, why did the system survive in transit but largely vanish for other utilities? For a contractual system to succeed, contracts must be fully specified but must be of short duration to provide required flexibility.[31] When capital is "sunk" or specific to one use and long-lived, it becomes exceedingly risky for a contractor to enter into a short-term contract. Loss of the contract could mean substantial capital losses. The capital associated with transit contracts often primarily involves buses; obviously these have shorter lives and are more easily sold or transferred to other locations than the system of wires or cables necessary for other utilities.[32] Urban transit may also benefit from having outputs that are relatively easy to specify by contract and from the availability of other transport industries that deploy similar skills and capital, and represent a pool of potential contractors.

Contractual arrangements have not been extensively employed in larger Canadian centres. While there are opportunities in this area, their realization will likely depend on the subdivision of urban systems into a number of smaller contractual units. Otherwise, the difficulty in redeploying equipment and personnel on the required scale would continue to inhibit competitive short-term bidding for the franchise. With a franchise system there would be costs associated with the need to coordinate services and fare systems among a number of independent operators — costs that would not be encountered in smaller urban areas. These added costs, however, could be more than offset by the other advantages of franchises. Of course, this pertains primarily to bus service. The use in large centres of vehicles on rail, like streetcars and subways, involves capital not conducive to private ownership.[33]

Administering Contracts

Whatever the potential, the savings actually achieved will depend on the quality of both the contract and the supervision provided by municipal administrators. Under current practice, the municipality generally retains responsibility for planning the system. The contract can specify the quantity and quality of outputs or, if these cannot be measured, the quantity and quality of inputs.[34] Thus the contract may specify such desiderata as routes, schedules, and frequency of operation, as well as the quality of the equipment to be used. Fares are also set by the city. Compensation for the operator is fixed by the bid, though it may vary with measures of performance, as specified in the contract. The term of agreement usually runs between two and three years.

Even in small centres, the system does not always succeed. There are costs involved in drafting and enforcing contracts, and in administering the bidding process. Sometimes, competition for the contract is not forthcoming. To some extent, this may reflect the fact that there is still capital required — both for buses and other facilities like garages — that is longer-lived than the term of the contract. As already indicated, this creates risk. Aside from raising the required rate of profit, the need to purchase capital at risk in this manner will increase the net worth required of any bidder. Some governments respond to this problem by restructuring the market, such that only the operation of the system is contracted to private competitors. Some or all of the capital is provided by the government, for use by

successive operators. Of course, limiting the scope of the contract in this manner can also limit the scope of the associated benefits.

The most ambitious effort in Canada to overcome the defects of contracts in this manner can probably be found in British Columbia. The provincial corporation, B.C. Transit, was mentioned above. Among other activities, it owns and rents buses to municipalities and private contractors for use in privately operated systems outside the major cities. It also helps to plan, draft, and administer contracts, taking advantage of the economies in such activities that might not otherwise be available to small cities.

As noted above, almost all urban transit systems receive subsidies. These usually take the form of funds extended from the province to the municipalities operating the systems. Unfortunately, the subsidies are sometimes structured such that the use of public or private ownership — most often the latter — is unduly hindered. For some cities, Quebec effectively prohibits the solicitation of competitive bids; Nova Scotia pays subsidies only to publicly operated systems; and Ontario pays operating, but no capital, grants if transit is contracted out.[35]

While our discussion of urban transit has focused solely on organizational alternatives, it does have some significant policy implications.

4.4 We suggest that in the light of evidence of significant economies, provincial and municipal governments actively explore the opportunities for urban transit to be supplied by private firms. In particular, provincial governments should redesign subsidy programs that discourage contracting arrangements.

Conclusion

We can now briefly summarize the major conclusions of this chapter in terms of the questions posed in Chapter 3. Questions concerning the continued validity of government objectives arose primarily in telecommunications. Unlike electricity, technical change has meant that many aspects of telecommunications are increasingly becoming more efficiently structured as competitive markets. Within Canada, the provinces served by government telephone companies have been particularly slow to adapt to these changes.

Analysis of the appropriateness of public enterprise as a policy instrument (the second question) centred on the nature of public objectives and the capital required to fulfil them. The public electrical utilities have been assigned a number of objectives — particularly that of economic stabilization — beyond the production and sale of electricity. Coupled with the fixed capital required for the generation of electricity, these make the use of government enterprise appropriate. By comparison, in the telecommunications sector where public objectives have been primarily distributional, the public utilities and the private regulated utilities have generally done equally well in fulfilling their mandates. Urban transit can require much less fixed capital than electricity or telecommunications, and the associated public-policy objectives tend to be uncomplicated. As a consequence, this service can often be provided more efficiently by public contracting with private suppliers.

Finally, in examining questions of control, we endorsed the use of independent commissions to regulate pricing by electrical utilities and to advise on capital expenditures. The advisory function recognizes the difficulty that regulators would have in dealing with the stabilization role that these enterprises are intended to fulfil. As well, there should be more careful and comprehensive monitoring of the performance of electrical utilities generally, with emphasis upon those activities where there is potential for conflict between objectives. For the public telephone companies, the discussion of control centred on the need to ensure that competitors are protected from unfair competition from publicly owned telephone companies. This problem might be most appropriately resolved by restricting the public enterprises to monopoly activities, where this is feasible.

5 Government Enterprise in Transportation

Canadian governments have traditionally been heavily involved in the transport sector. Earlier in history it was a main focus for government efforts to forge links that would politically and commercially integrate the widely scattered peoples and diverse regions of this country. More recently, governments have come to recognize that there are important social and economic effects from transport that do not show up on the profit-and-loss statement of individual producers and users. Such has been the perceived importance of the sector that governments have deployed their full range of instruments, layering protective regulation and direct subsidies upon full and partial state ownership.

From its initial involvement in the building of roads, ports, and canals, the state gradually expanded the scope and degree of its participation in the transport sector. In the process, government enterprises have become an important part of Canada's transportation network. Canadian National Railways (CN), created out of a number of private lines facing bankruptcy, has operated for its 60 years alongside the privately owned Canadian Pacific Rail (CP Rail). VIA Rail has been the sole supplier of rail passenger services for almost a decade. Trans-Canada Airlines, now known as Air Canada, was created when private interests proved unwilling to incur the risks of providing transcontinental air service.

Government transportation enterprises have not been confined to the federal level. Seeking to develop their economies, sustain essential transport services to remote communities, and retain and generate employment, provincial governments have also established and purchased rail and air carriers. British Columbia acquired B.C. Rail in 1918; Saskatchewan established Saskair in the 1940s; Ontario established Norontair, a local air service operation, in 1971; Alberta purchased Pacific Western Airlines in 1974; and Quebec purchased Quebecair in 1983.

Given their importance to the country's economic, social, and political life, it is not surprising that transport systems have been both creatures and instruments of national policy. Aided by government subsidies and concessions, railways were national-interest vehicles, serving the social, political, and economic objectives of national policy. In air, a similar role was played by the protected, government-owned carriers. Over time, however, there have been changes in the national policy and corresponding changes in the role of the national-interest vehicles.

The corporations we examine in this chapter, like a number of those in the previous chapter, are the product of both public ownership and public regulation. In the case of the transport enterprises, regulation is due not so much to the weakness of market forces as to the desire of governments to pursue particular public-policy goals. The interface of ownership and regulation in this context raises some distinct issues. It is important, in particular, to question whether the two forms of intervention are complementary: Does government ownership reinforce, or otherwise contribute to, the effect of government regulation?

Another set of issues arises in connection with the important changes now occurring in transport markets. In both the rail-freight and airline industries, regulatory barriers that have long protected existing carriers are being substantially eroded. Regulatory reform in the United States under the Carter and Reagan Administrations has had a significant impact on Canadian carriers, as well as on Canadian policy. More recently, the federal government released a position paper, *Freedom to Move*, and tabled legislation (Bill C-126), both aimed at increasing competition in Canadian transport markets.

Underlying these changes has been a recognition of the importance of keeping pace with policy developments that have lowered transport costs for U.S. producers. As Table 5-1 illustrates, transport charges are a very significant component of overall costs for many Canadian producers. Government policies that influence transport costs will have an important impact on the international competitiveness of Canadian firms.

Along with regulatory reform has come a change in federal policy towards major Canadian transport enterprises; greater emphasis has been given to the commercial role of Air Canada. CN has been relieved of, or provided with compensation for, a number of its non-commercial obligations. These changes bring into question the role and implications of government ownership in the transport sector.

In the following sections we apply the framework in Chapter 3 to an examination of the major public enterprises in the rail-freight, air, and rail-passenger indus-

Table 5-1

Average Transport Charges in Goods-Producing Industries, All Transport Modes,[1] Canada, 1981

	Transport charges as a proportion of output[2]	
	From producer to purchaser (domestic sales)	From producer to Canadian border (exports)
	(Per cent)	
Primary industries:		
Agriculture	3.2	6.4
Forestry	4.6	7.6
Iron and mines	10.8	12.9
Base metal and other metal mines	3.1	5.9
Coal mines	9.9	53.1
Asbestos mines	10.3	9.0
Gypsum mines	51.2	39.4
Salt mines	38.7	17.0
Other nonmetal mines	18.2	20.8
Quarries and sand pits	26.4	23.8
Manufacturing industries:		
Sawmills	10.9	11.6
Pulp and paper	5.3	5.4
Aluminum smelting and refining	5.3	3.0
Cement	11.9	16.3
Lime	14.8	16.9
Stone products	7.3	8.0
Other petroleum and coal products	10.0	8.1
Mixed fertilizers	8.5	21.1

1 Except private trucking.
2 Valued at producers' prices, which cover the costs of production.
SOURCE Statistics Canada, input-output models.

tries. The first of three fundamental questions posed in Chapter 3, pertaining to the nature of the objectives pursued, is a central focus of discussion in the rail-freight sector. Here, as in the telecommunications sector in Chapter 4, there is a need to examine the extent to which government intervention may be justified by the limitations of the market. To what extent do the technological characteristics of the rail-freight industry necessitate a role for government? The appropriateness of government enterprise relative to other instruments (the second of the three fundamental questions) is examined in all three industries. Consideration is given to the efficiency of government transport enterprises in providing both commercial and noncommercial services, although the latter have declined in importance and must be weighed accordingly in the analysis. While the problem of controlling public corporations (the third question posed in Chapter 3) is mainly left for later chapters, it does come up here in our discussion of VIA Rail and of recent proposals to provide that enterprise with a legislative mandate.

Rail Freight

CN is one of the oldest, as well as one of the largest and most diversified, Canadian public corporations. In addition to its Canadian rail operations, the company is a significant participant in the U.S. rail-freight market (through Grand Trunk Corporation) and in a wide range of nonrail activities, including telecommunications; hotel operation; real estate; oil and gas exploration; and, until very recently, trucking (Chart 5-1). In terms of assets, CN was the eleventh largest corporation in Canada in 1985.

CN is today a far different organization than the heavily indebted structure that was pieced together in the early 1920s out of five railroads and 139 separate companies. The corporation has undergone important changes over time in response to market developments, along with shifts in rail policy and changes in the federal approach to the management of its transport enterprises. An examination of these changes can contribute to our understanding of the role of public enterprise in the rail-freight industry.

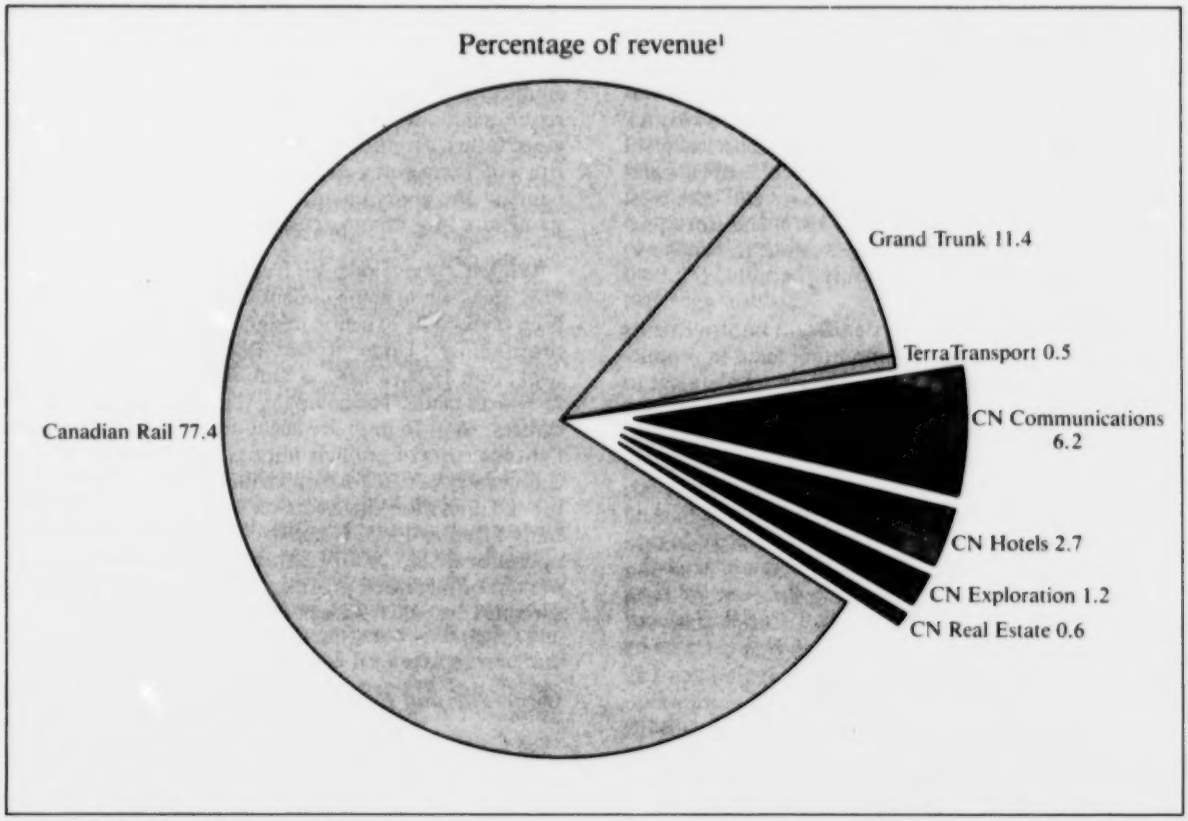
CN within a Changing Policy Environment

Rail policy in Canada can be divided roughly into three phases. Prior to 1930 the emphasis was on providing financial support for rail development and ensuring that shippers had access to fair and equitable service. Under the *Railway Act*, the Board of Railway Commissioners attempted to prevent "unjust discrimination" and uncompetitive, or potentially uncompetitive, activities by the railways. At the same time, special statutory arrangements were introduced in response to regional pressures for preferential rates. Prairie farmers benefited from the low "Crow's Nest Pass" rates established for grain shipped to Pacific and Lakehead ports, while shippers in the Maritimes and eastern Quebec enjoyed the subsidy arising from the *Maritime Freight Rates Act* (1927).

Notwithstanding its high level of debt, much of which had been inherited from its predecessors, CN embarked on an ambitious program of expansion and diversification in this early period. The corporation ventured into hotels, coastal shipping, and telecommunications, and greatly extended its branch-line network. This expansion was in part a response to political pressures exerted

Chart 5-1

CN Corporate Activities



1 Based on 1985 data. CN Route, a trucking operation that was sold recently, has been excluded.
Source Canadian National, *Annual Report*, 1985.

on the corporation, but it was also the result of an attempt by an aggressive management to keep pace with CN's private-sector counterpart. In reviewing the excessive rail construction of the 1920s, the Duff Commission (1931/32) pointed to the highly competitive environment and the fact that one of the competitors "was backed by the long purse of the state":

> Had this competition existed between private companies, each dependent upon its own resources to raise the capital and to pay the bill, it is likely that years of adversity would have brought wisdom.[1]

In the second policy phase, beginning in the early 1930s and extending to 1967, the emphasis was on policies to help the railways contend with the pressures of a more competitive environment. The problems of the 1920s highlighted the dangers of what the Duff Commission described as "aggressive and uncontrolled competition." The vulnerability of the railways became more evident in the 1930s and 1940s with the arrival on the scene of new transport technologies that were better-suited for certain types of traffic. With the growth of trucking competition, the railways lost an increasing share of the high-value shipments that had been an important source of revenue.

Government support for the railways took various forms. The public and private carriers were not only allowed, but to some extent encouraged, to coordinate their activities, including rate setting. Government policy also supported increased rate flexibility; the railways were allowed to modify their rate structure so that increased profits could be realized in those markets, subject to less-intense intermodal competition. As well, subsidies were increased substantially. As before 1930, grants were provided to compensate the railways partially for government policies aimed at alleviating

perceived freight rate inequities. Subsidies were also provided to compensate the railways for a freeze on general rates applied between 1959 and 1967.

In this second period, CN's activities were constrained by the corporation's heavy debt burden. In addition to the general problems affecting the industry, CN was handicapped by the tendency to use CP as the yardstick for rate setting. Because of the higher-cost physical plant it had to support, CN incurred significant deficits and became more dependent on federal loans and subsidies. Two recapitalizations (in 1937 and 1952) and stock purchases by the federal government eased the corporation's financial problems but only partially.

Both CN and CP achieved significant improvements in equipment utilization and important gains in productivity over this period. With the corporation subject to substantial financial and political constraints, however, CN management continued to place considerable emphasis on the corporation's role as a vehicle of national and regional development. As a consequence, the CN's route mileage increased, in contrast to that of CP. And notwithstanding the sizable losses being incurred in passenger transport, CN management took minimal advantage of the opportunity to cut service. Between 1939 and 1970, for example, while Canadian Pacific reduced passenger-train miles by 70 per cent, CN cut service by less than 25 per cent.[2]

The third policy phase, which began in 1967 with the passage of the *National Transportation Act*, has been marked by a recognition of the importance of intermodal competition. Related to this has been a realization of the limitations on the railway's ability to carry out an effective system of internal subsidization. Amendments to the *Railway Act* provided the railways with substantial freedom to set rates on commodities not subject to statutory freight rates and established a system of direct subsidization for the uneconomic passenger and branch-line service that the railways were required to maintain in the public interest. In more recent years two important policy changes have further reduced the burden of imposed public-policy obligations. In 1977, the provision of unprofitable passenger services was assigned to a new Crown corporation, VIA Rail Canada Inc. Instead of being reimbursed for 80 per cent of their losses (as specified under the *Railway Act*), CN and CP would contract with VIA and be paid according to a specified costing formula. The second important development was the passage of the *Western Grain Transportation Act* in 1983. This requires the government to pay the railways a fixed amount annually, based on the revenue shortfall from payments under the Crow (the "Crow Benefit"), and to share future cost increases with shippers.

In this third period, CN has attempted to establish itself as an efficient commercial corporation. The new federal emphasis on direct, as distinct from internal, subsidization has helped CN to get its finances in order. The conversion of $808 million in government-held debt to equity in 1978 further strengthened the corporation's finances. This recapitalization was accompanied by a requirement that the corporation borrow directly to meet future capital requirements. Statements by Ministers of Transport over the past decade have tended to confirm the government's intention that CN conduct its affairs in a commercial manner.

While CN has not been free of ministerial intervention, the general environment over the past decade has been favourable to action designed to enhance corporate profitability.[3] Under Robert Bandeen, who was president from 1974 to 1982, a number of important initiatives were taken. The company was organized into profit centres, so as to improve accountability and also highlight the costs of publicly imposed responsibilities. CN aggressively pursued the opportunity to abandon Prairie branch lines after the freeze on abandonments was partially lifted in 1975. It cut back on some unprofitable operations, such as CN Express. At the same time, in pursuit of increased profits, the company significantly extended its rail holdings in the United States.

Ownership and Performance

In assessing the consequences of public ownership in the rail freight industry, one might first question whether it has contributed to the achievement of the government's public-policy objectives. When the federal government initially formed CN, it was concerned that the collapse of the major private rail firms would sever vital transportation links in the country and jeopardize Canada's credit standing in foreign capital markets.[4] The establishment of a government enterprise was an effective response to these concerns. In subsequent years the focus shifted to the use of the railways as elements of regional development. From the experience of CN it is difficult to find evidence that public ownership per se has been important to the attainment of this objective.

To be sure, CN has somewhat different obligations than its private-sector counterpart. Even over the past decade when the emphasis has been on commercial efficiency, CN management has been subject to government involvement in its purchasing and employment decisions. In 1981, for example, ministerial intervention delayed the closing of two CN Express terminals in the Maritimes. The corporation's commercial performance has also been affected by the requirement to provide

unprofitable rail service in Newfoundland — an obligation that is of major concern to CN management.

The government's major national and regional objectives, however, have been pursued through a legislative and regulatory framework that is largely indifferent to the ownership status of the carrier. Both CN and CP have been required to reduce the divergence in rates applying to different users and different regions. Both firms were initially subject to a policy framework that allowed rate disparities to be reduced through a system of cross-subsidization. Following the passage of the *National Transportation Act* (NTA) in 1967, the system of internal subsidization was largely replaced by a number of programs of direct subsidization. These provided the public carrier and the private carrier similar opportunities to abandon unprofitable services and similar terms of compensation for services that were deemed to be in the public interest.

While the arrangements put in place to meet the government's policy objectives have had certain notable deficiencies, these problems have been as evident with the public carrier as with the private carrier. Prior to the formation of VIA in 1977, for example, CN and CP had direct responsibility for the provision of passenger service, although this conflicted with their commercial priorities. The incentive for carriers was thus to provide minimal levels of service and to restrict their investment in rolling stock. CN did not, for example, order any new passenger equipment after 1966. A similar problem arose in connection with government policy towards the branch lines. While after 1967 the railways were provided with 100 per cent compensation for losses arising from branch-line traffic, these subsidies only pertained to operating costs. The railways had no incentive to invest in the service, with the result that branch lines deteriorated and the stock of frain cars became outmoded and inadequate.

The problems that VIA Rail has encountered since 1977 in its contract arrangements with CN and CP are also instructive. A number of researchers have pointed to the deficiency of the costing arrangements by which VIA reimburses CN and CP for the passenger services they provide. The effect of these arrangements has been to leave VIA with inadequate control over the costs of services it purchases from CN and CP. We shall return to this issue in the next section of the chapter, but it is interesting in the present context that these problems have applied as much to the arrangement with CN as to that with CP. Public ownership has not reduced monitoring problems, and it has not resulted in CN being a more cost-conscious and reliable provider of rail passenger services.

To assess the consequences of public ownership, it is also necessary to examine the relative efficiency of CN. The measurement of rail output, which is required for the estimate of productivity, is complicated by the difficulty of adjusting for different types of rail traffic. While this problem has not been completely resolved, studies comparing productivity growth between CN and CP, and between those firms and U.S. rail carriers, are instructive.[5] Between the mid-1950s and about 1980, the growth of total factor productivity was found to be similar for CN and CP; both railways were found, however, to have achieved significantly higher average annual rates of productivity increase than comparable U.S. carriers, who laboured under more restrictive rate regulation.

Intense intermodal competition has prompted important changes in the Canadian rail-freight industry. One significant development has been the increasing concentration of the railways on long-haul, low-value bulk traffic. This does not represent a productivity improvement, although it would show up as one if output were measured (as it has been in most studies) by the volume of output. This change in traffic pattern was accompanied, however, by some important innovations. These include the introduction of freight cars with larger payload capacities, improved techniques of car management, and technological improvements in switching and yard operations. It is significant that CN has participated in these developments.

While CN has realized important gains in productivity, it is conceivable that it started from a lower base than that of CP. The studies of total factor productivity do not answer this question; but in terms of output per employee or simple labour productivity, CN does fall significantly below CP. This difference can at least be partly accounted for by the policy constraints on CN and by its heavier burden of low-traffic rail lines.

There have been important changes over time in the environment within which the rail carriers operate, and one might expect these changes to have influenced performance. A recent study that examined the total factor productivity growth achieved by CN and CP from 1956 to 1975 and from 1975 to 1981 found that there was indeed a substantial slowdown in the rate of gain in the more recent period.[6] The post-1975 period was, not coincidentally, characterized by less-intense intermodal competition, the rail carriers having already withdrawn from those markets in which they were most vulnerable to trucking competition.

Organizational Arrangements for the Rail Industry

While public ownership has not made a significant contribution to the achievement of government objectives for the rail sector, the question arises as to whether it could do so. More generally, what is the optimal organization for the provision of rail services and the pursuit of accompanying public-policy objectives? This question is prompted by a number of concerns related to the existing structure of the rail industry. We first examine these concerns, which pertain to the degree of competition in the industry and the contractual problems associated with existing public policies. This leads us to consider the technological characteristics of rail freight and the nature and degree of government intervention that is thereby appropriate.

Inadequate Competition

Recently, much attention has been focused on the nature and strength of the competitive forces within the rail-freight industry. Intramodal competition in the rail industry has been limited by the location of rail lines and by government policies that have supported cooperative activities by rail carriers. Regulated access to an alternative rail carrier is presently available only to those shipping within "interswitching limits." This is a specific distance (usually four miles) from a connecting point of two railways; within this limit, goods can be transferred to a connecting railway, subject only to a regulated interswitching toll. Running-right agreements, which would allow one carrier to solicit traffic on another carrier's line, exist; but their usage has been limited.

If a shipper is fortunate enough to have access to more than one carrier, his position as a purchaser of rail services may be only somewhat improved. He may benefit from a greater variety of service offerings, but he will still be subject to an environment that discourages competitive rate setting. Section 279 of the *Railway Act* requires railway companies to exchange certain cost information and permits them to agree upon, and charge, common rates. In so doing, rail carriers are expressly exempted from prosecution for collusion under the *Combines Investigation Act*. While this provision has been justified because it facilitates the joint movement of freight where it is more efficient to use more than one railway, in fact, the amount of interlined traffic in the domestic market has been minimal.[7] Cooperative activities are also encouraged by other legislation (notably section 32(2) of the *Transport Act*) that requires carriers to consult each other when using negotiated rates, known as "agreed charges."

The *National Transportation Act* placed major emphasis on intermodal, as distinct from intramodal, competition. While competition from other modes (especially trucking) has certainly limited the general market power of rail carriers, this constraint is more real in some circumstances than in others. The situation today is very different from that of earlier years when trucking was striving to establish its presence in the market. Trucking and rail now concentrate on different market segments; for much of this traffic the advantages of one mode over another are so great that there is little effective competition.

Charts 5-2 and 5-3 show that trucks tend to carry the predominant share of shipments involving lower weights and shorter distances, while rail handles a major portion of the traffic involving heavier weights and longer distances. The choice of mode will also be affected by the nature and value of the commodity being shipped; rail has important advantages for the transport of goods with a low retail value in relation to their size and weight. A major portion of rail revenue is derived from large shipments of relatively bulky, heavy-loading goods over distances of 500 or more miles. The advantages of rail carriage for this traffic are so substantial that the availability of a trucking alternative could only serve to establish a rather high ceiling on the pricing freedom of rail carriers.

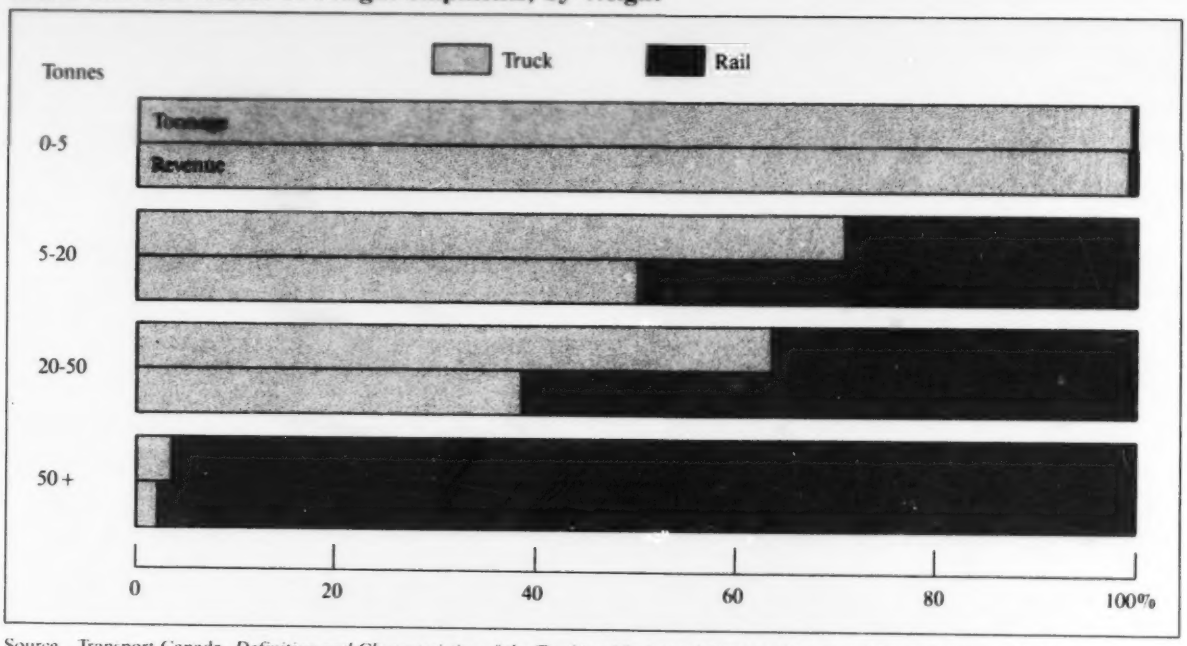
Problems in Pursuing Policy Objectives

The structure of the rail industry not only affects shippers; it also has implications for the government's ability to achieve its public-policy objectives. We referred earlier to the distortions that have arisen in connection with federal programs to subsidize and support rail service to certain users. While the branch-line and rail-passenger subsidy programs had certain flaws in design, they were also beset by more general problems that are common to all long-term contractual arrangements. These include the problem of accommodating changes in circumstances that cannot be foreseen when the initial agreement is struck. There is also the difficulty of sustaining performance incentives when a firm is not threatened by the prospect of being replaced by an alternative supplier. These problems would not exist if the structure of the industry were such that firms could compete for a short-term contract to fulfil the given public-policy services.

Subsidies under the branch-line program have now largely been replaced by payments to the carriers under the *Western Grain Transportation Act*. This attempts to overcome one of the problems with the branch-line program by tying compensation payments to commitments by CN and CP to investment in the western rail system. Other problems remain, however.[8] Carriers are

Chart 5-2

Truck and Rail Shares of Freight Shipments, by Weight



Source Transport Canada, *Definition and Characteristics of the Trucking Markets: A Statistical Analysis* (Ottawa: January 1980), Tables 1 and 38.

subsidized on the basis of their long-run variable costs. The process of determining and securing agreement on the extent of these costs is, of necessity, difficult and time-consuming. There is, as well, a need to subject rail costs to careful examination. If incentives for efficient performance are to be established, the Canadian Transport Commission (CTC) must in effect engage in a process of scrutiny similar to that proposed for electric utility commissions in the preceding chapter.

Competitive Opportunities

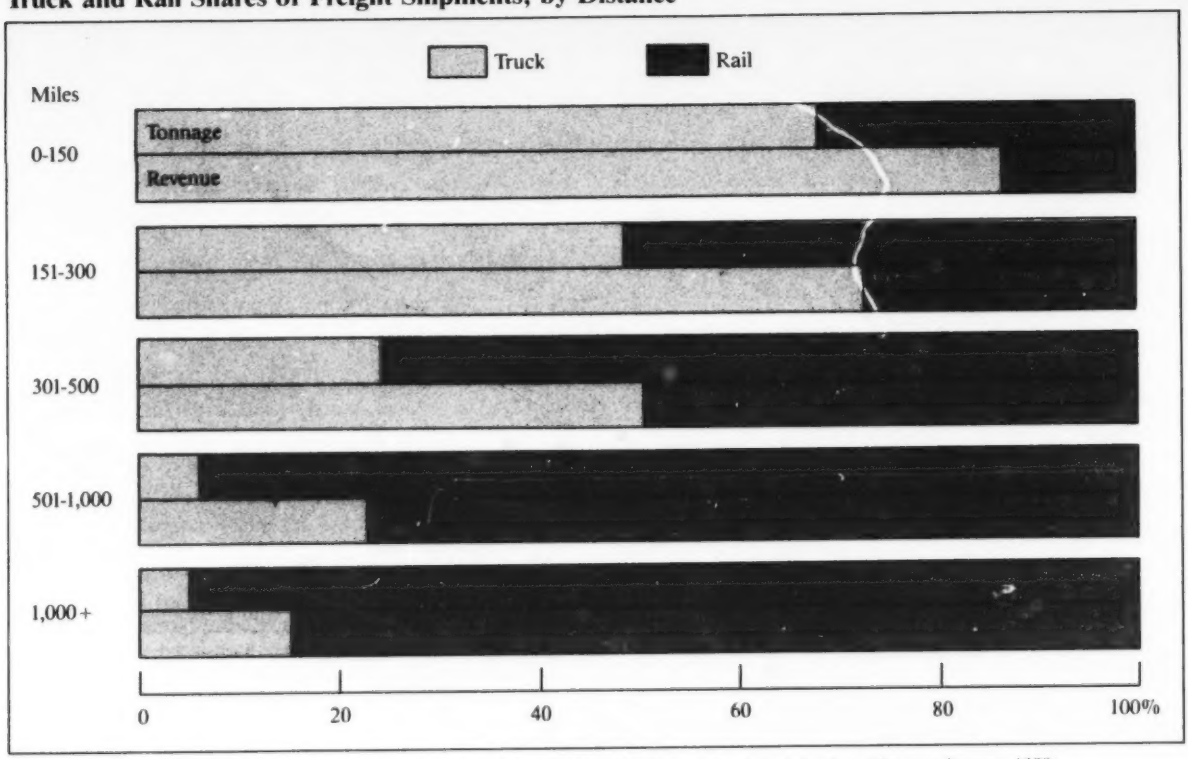
The problems that have been identified could be addressed by strengthening regulatory controls or, alternatively, by changing administrative arrangements in an attempt to realize the possibilities from the existence of a public corporation in the industry. Based on previous experience, there is little reason to believe that either regulation or public enterprise can resolve these problems. Rather, there is a need to consider seriously the possibilities for introducing greater competition into the provision of rail-freight services.

Competition in rail has traditionally been limited because of the recognition that the industry has certain characteristics of a natural monopoly. A railway, however, can usefully be understood as a vertically integrated firm involved in providing the infrastructure or track and also the transport services that arise from existence of the track. Studies do not suggest that the latter stage of activities in itself involves economies of the sort likely to give rise to a natural monopoly.[9] Moreover, as we noted in Chapter 4, even with the existence of substantial economies of scale, competition may be possible. So long as there are no barriers to entry, the competition from potential entrants may effectively limit the opportunity for monopoly profits; competition *for* the market can be an effective substitute for competition *in* the market. The sunk capital associated with the provision of the railbed constitutes a major barrier to entry. Rail carriage, on the other hand, does not require major investment in specialized, highly durable capital facilities.There are no natural barriers to entry into the rail-carriage segment of the industry.

To take advantage of the possibilities for competition, it is necessary to establish a regulatory framework that gives recognition to the differences between the provision of rail infrastructure and the provision of rail carriage. The former requires regulation or public ownership, as is the case with any natural monopoly. Rail

Chart 5-3

Truck and Rail Shares of Freight Shipments, by Distance



Source Transport Canada, *Definition and Characteristics of the Trucking Markets: A Statistical Analysis* (Ottawa: January 1980), Tables 1 and 38.

carriage, however, could be subject to the constraints that come from market competition rather than economic regulation. In this case, rules and regulations would still apply to rail carriage, but these would be governed by considerations relating to safety and to the maintenance of the track.

The concept of separating the ownerships of infrastructure from carriage is not new. In the United States, the earliest railroads were simply fixed ways on which operations closely resembled the other transport modes of the era — turnpikes and canals. Only in the mid-1880s did the current integrated structure emerge. Even during that early period, however, there were advocates for the separation of track and carriage:

> The modern function of the railroad company as the exclusive carrier upon its road has become so familiar, that it is somewhat difficult to realize fully the original conception of its function, as a highway upon which numerous carriers might compete for business.... But there is no necessary connection between the two functions of furnishing the road and carrying upon it. Much less is there any legal reason why the railroad company should be the exclusive carrier over its road.[10]

More recently, the idea of a fundamental restructuring of the rail industry has gained a number of proponents.[11] One recent report came to the following conclusion:

> At a time of accelerated institutional change in the world's railways, there is believed to be nothing sacred about organizational structures rooted in early Victorian England. In other transport modes, air and water, for example, a distinct separation between entities responsible for infrastructure (whether private or public) and those providing for-hire carriage (be they public or private) is taken for granted. It will perhaps be argued that the fixed-guideway technology of railways somehow mandates the continuation of such total function hierarchies as have heretofore prevailed. It is believed that the burden of that proposition rests on those who advance it.[12]

Government Proposals

Bill C-126, the legislation to amend the *National Transportation Act*, tabled in the last session of Parliament, put forward an alternative set of proposals to promote intramodal competition. These involve the repeal of Section 279 of the *Railway Act*; shippers would be allowed to negotiate confidential contracts concerning rates and other aspects of service with a carrier. As well, a number of provisions would be introduced to increase railway competition and in particular to afford shippers captive to one rail line access to the lines of another carrier. First, the "interswitching limit" — that is, the distance from a connecting point at which a shipper may have regulated access to a connecting railway — would be increased to 18 miles. Second, a railway would be able to seek running rights on the tracks of another railway within 30 miles of any connecting point ("terminal running rights"). Third, a shipper who has access to the lines of only one carrier at the point of origin or destination but who has been able to negotiate an arrangement for a portion of the movement with a second carrier could apply to the National Transportation Agency (the proposed successor to the CTC) to set a "competitive line rate" to or from the interchange point. In addition, running rights and joint track usage could be ordered by the Agency, following an application by one railway, or could be imposed by the Governor in Council. The latter would only occur following a report by the Agency establishing that "significant efficiencies and cost savings would result."

Given historic practices within this industry, there is a need to question whether the proposed measures are sufficient to ensure carrier competition. With the proposed changes, the rail-freight industry would remain, at most, a duopoly. Even with confidential contracting, competition in such a highly concentrated industry is far from assured. Confidential contracting could potentially benefit some of the large shippers who have a choice of carriers. But in many cases the railway networks do not overlap, and there would not even be any possibility of intramodal competition unless access were effectively regulated. The effectiveness of the access provisions in the legislation are, however, subject to considerable uncertainty, depending as they do on the willingness of carriers to take advantage of the new opportunities, on how the track owner's compensation will be determined, and on the nature of the test that the Agency and the Governor in Council will use to determine whether significant efficiencies are likely to be realized from enforced running rights. In this latter regard, it is significant that in the government's recent position paper, *Freedom to Move*, the power to impose running rights is carefully qualified; the expressed intention is that "this power would be used only in exceptional circumstances where significant efficiencies and cost savings would be certain to result."[13]

In emphasizing the need for intramodal competition the government has set an important new direction for transport policy. But while the government's intention is to reduce regulation and place greater reliance on market forces, the proposed reforms are designed essentially to promote a degree of "regulated competition." Aside from the uncertainties associated with the administration of the legislation, the proposed approach is based on a narrow concept of competition. The benefits that could come from opening up entry to competitors with new and innovative ideas for rail carriage will not be realized. Nor will the proposals contribute to the implementation of the government's public-policy objectives; there would still be no possibility to take advantage of the benefits of competitive contracting for noncommercial services that the government wishes to support.

Towards a Restructuring of the Rail Industry

In the Council's view, there are strong arguments for restructuring the rail industry so as to distinguish its monopoly from its competitive elements. Effective competition in rail carriage is possible and desirable, but this requires that new firms be allowed to enter the industry. Companies specializing in other forms of transport, as well as large shippers, should be encouraged to participate in rail transport.

5.1 We recommend that in developing policies to promote competition in rail freight, consideration also be given to creating opportunities for new entry into the rail-carriage segment of the industry. The implementation of this expanded approach would require that new firms that meet certain basic requirements be granted authority to engage in rail carriage and that they be provided with liberal access to the existing roadbed.

Entry into rail carriage could be promoted in different ways. The provisions in the proposed legislation could be expanded to make running rights more easily available and to open entry into rail carriage to anyone who can meet the basic requirements related to safety and liability coverage. Instead of regulating the activities of CN and CP in their capacity as providers of the roadbed, the management of all track could be assigned to a new publicly owned track authority. This would require the nationalization of CP's roadbed and the separation of CN's track from the other components of its operation. Alternatively, a public track authority could be created, based exclusively on the infrastructure of CN.

We believe there is considerable merit to the latter approach, which takes advantage of the government ownership of one of the main railways. Entry is likely to be easier to promote through a public track authority

than through regulatory mechanisms to promote track access. At the same time, the railbed, which is already subject to government ownership, is a sufficient base from which to foster intramodal competition in the rail-freight industry.

Under the third alternative, all potential carriers would apply to the new public corporation for authority to provide a specified service on the "public track." The track corporation would assume responsibility for maintenance of the track, for controlling and coordinating train movements over its network, for granting operating authorities, and for setting the fees and conditions for entry. The new corporation could also be given responsibility for ensuring the availability of certain unprofitable rail services deemed to be in the public interest, such as the service that CN provides in Newfoundland and the service that exists on various Prairie branch lines. In a competitive industry these would be provided by those carriers who can meet the specified requirements at lowest cost. The new public authority could be given responsibility for administering the tendering process and for monitoring and enforcing the resulting contracts.

The new track authority need only assume ownership of CN's Canadian track and those components of its operation that are involved in the maintenance and management of the track. All other holdings could be left under the umbrella of the existing public corporation. As one of a number of carriers, however, CN would not have any distinct public-policy role. The non-commercial services that CN now provides would be contracted out to the carriers who could supply those services under the most favourable terms. With CN as a truly commercial corporation, there would be no need for continuing public ownership. We see divestiture as a logical consequence of the separation we are proposing. In our view, however, this is of secondary importance. The major gains would be realized not from divestiture but from the establishment of a separate track authority and from the introduction of greater competition in rail carriage.

While CP Rail could be left to operate as a conventional railway, there is a need to ensure that those shippers who are captive to CP are not denied the benefits of intramodal competition. This could be achieved by requiring CP to provide running rights to other carriers in cases where shippers do not have access to the public roadbed. The public track authority, or a separate regulatory body, would need to enforce this requirement and ensure that the conditions and rates established for use of the track were reasonable.

While what we are proposing is novel compared with current practice in the rail industry, the separation of infrastructure and carriage is familiar in other areas of transport. Techniques are available to facilitate smooth operation, just as in the highway, air, and water modes. Here, as well, separate agencies maintain the fixed way, provide traffic control, set operating rules, and license individuals to operate vehicles.

The feasibility of what we are proposing is also confirmed by existing industry practice. Railways grant trackage rights or engage in joint track operations when such practices are mutually beneficial. Under such arrangements the owner of the track has had to consider many of the same issues that would be of concern to a public track authority: user charges, operating rules and regulations, dispatching, liability, and rights to terminate the agreement. A review of the arrangements found little evidence of significant operational difficulties.[14] Experience suggests that agreements can be successfully worked out for sharing of the same track by multiple rail carriers.

In general, then, we want to emphasize that we wholeheartedly endorse the focus on intramodal competition in the government's recent legislative proposals. To give expression fully to market forces, however, it is necessary to extend access widely to the existing roadbed and to encourage the entry of new carriers (private and for-hire) into the industry.

Rail-Passenger Transport

Rail-passenger service differs from the other transport services discussed in this chapter in that its very existence is dependent upon taxpayer support. In 1985, total subsidies to VIA Rail were in excess of $600 million, or in the order of $85 per passenger. While rail-passenger-transport subsidies may be justified by, for example, the desire to serve remote communities, by the symbolic value of a transcontinental rail-passenger system, or by the lower environmental costs (in some cases) of rail compared with automobiles, the value of these benefits and the appropriate type and degree of subsidization are largely matters of political judgment. It is only with the tabling of a new Act earlier this year, however, that the federal government has attempted to clearly articulate its expectations with respect to rail-passenger services. The absence of a coherent statement of government objectives has significantly complicated the role of VIA, the Crown corporation responsible for the provision of rail-passenger transport.

Background

VIA Rail Canada Inc. was created in 1977 to take over the management and marketing of rail-passenger ser-

vices from CN and CP Rail. The corporation was established through a one-dollar appropriation and a Cabinet order outlining regulations for contracts between the transport minister, VIA, and the railways. VIA does not yet have a legislative mandate.

VIA enters into contracts with the railways for passenger-train operations and for station and equipment maintenance. It owns its own passenger fleet and assumes direct responsibility for marketing, ticketing, advertising, and promotion, as well as on-board services. More recently, VIA has attempted to reduce its dependence on CN and CP by constructing or acquiring its own stations and passenger-equipment repair shops. A major new maintenance facility was recently opened in Toronto, and another is being constructed in Montreal. Most current services, however, including the operation of passenger trains, the provision and maintenance of the track, traffic control, communications, some station operations, and some maintenance and repair, are provided by the railways under contract.

VIA was created mostly because of concerns over rising rail-passenger subsidies. Yet payments to cover VIA's operating losses have continued to mount (Table 5-2). The ratio of operating revenue to operating costs, which declined from 37 to 30 per cent over the period 1972-79, when the railways were being compensated for 80 per cent of their passenger-service losses, has continued to decline; by 1985 the ratio was below 28 per cent. Revenue per passenger-mile has not kept pace with the growth in costs per passenger-mile, which almost doubled between 1980 and 1985. It is interesting that, by contrast, Amtrak — VIA's U.S. counterpart — has had considerable success in bringing its costs under control. Amtrak's revenue-to-cost ratio increased from 40 per cent in 1980 to 53 per cent by 1985.[15]

VIA's rising deficit is the result of a number of factors. The government's failure to establish priorities for rail-passenger service has resulted in the availability of a variety of highly subsidized services. These include not just rail service to remote communities and transcontinental services — both of which can be justified in terms of the objectives of the *National Transportation Act* — but also passenger service on those routes where a wide range of competitive services are available. The growth in VIA's operating loss was reduced — though not eliminated — in 1981 by a Cabinet order to cancel service on about 20 per cent of the VIA system. In 1984 and 1985 a number of these services were restored.

The difficulty that VIA has experienced in controlling costs per mile is due to a number of fundamental shortcomings in the institutional arrangements under which it has operated. While VIA is responsible for route and service planning, along with pricing, corporate decisions that impact on budgetary requirements must be reviewed by the Minister of Transport and approved by Treasury Board. This substantially reduces the discretion of VIA's management and board. Requirements for budgetary approval limit the corporation's ability to engage in planning, in terms of either the service it provides (which will affect its operating budget) or the equipment it uses (which will affect its capital budget).

The age and condition of its equipment has in fact been a major problem for VIA. The average age of the passenger cars and locomotives that it initially purchased from CN and CP Rail is now 30 years or older. This

Table 5-2

VIA Rail Canada: Financial and Operating Statistics, 1979-85

	Operating cost	Passenger revenue	Operating loss	Other income[1]	Loss before government payments	Government payments[2]	Net capital expenditures
				($ thousands)			
1979	349,416	106,644	242,772	605	242,167	231,816	53,659
1980	459,163	140,081	319,082	420	318,662	320,085	90,238
1981	580,779	164,786	415,993	3,114	412,879	412,006	109,447
1982	602,067	161,994	440,073	16,966	423,107	431,620	114,115
1983	642,128	173,325	468,803	21,188	447,615	451,200	135,132
1984	595,020	177,041	417,979	24,046	393,933	397,796	153,649
1985	724,703	201,393	523,310	4,307	519,003	523,602	153,928

1 Mainly comprising interest from cash management.
2 Railway Passenger Service Contract payments.
SOURCE: VIA Rail Canada Inc., *Annual Reports*.

equipment is unattractive and unreliable, and it has hampered VIA's efforts to establish a reasonable record of on-time performance. While VIA has obtained new LRC (light, rapid, comfortable) trains for the Quebec-Windsor corridor, these only represent 10 per cent of the total fleet. The new vehicles have, moreover, been subject to substantial "teething" problems.

VIA has also been subject to major constraints in its negotiations for the purchase of services from CN and CP Rail. These contracting problems are partly related to the structure of the rail industry in Canada. If a number of firms were competing for the contract with VIA, information on the costs of providing passenger services would be readily available. Enforcement of the contract would also be facilitated because VIA could terminate the agreement in the event of inadequate performance. Because these possibilities do not exist, VIA's only opportunity to exercise influence over the cost of railway services would be through negotiation of a contract with appropriate performance incentives. Even if VIA had complete negotiating freedom, it would be in a relatively weak bargaining position so long as the government was committed to maintain passenger services and prepared to sustain rapidly rising rail deficits. In fact, however, VIA has had very little negotiating freedom. It is required to reimburse the railways for the long-run avoidable costs associated with rail-passenger service, as these are calculated according to a CTC costing order (R-6313). This has essentially enabled the railways to pass on their costs to VIA, with the result that CN and CP have had no incentive to improve efficiency.[16] While the contracts include incentive payments to encourage on-time performance, these are relatively small and have been of limited use. A railway cannot be penalized if its trains are late because of equipment problems, although this is one of the major causes of poor on-time performance.

Moreover, VIA cannot monitor railway activities to ensure that performance standards, and hence costs, are reasonable. The only audit of railway costs is undertaken by the CTC, and this is simply to ensure that the railways' cost calculations are in accordance with the commission's costing regulations. The effect of those arrangements has been to leave VIA with very little control over outlays, which account for about two-thirds of the corporation's operating expenses.

Besides the problem of cost control, VIA's arrangements with the railways make it difficult for the Crown corporation to make intelligent decisions on the appropriate quality of rail service. VIA makes monthly payments to the railways, based on estimated costs, and there is a final settling of accounts after the end of the year. Given this system of *ex post* billing, VIA cannot know in advance what its costs will be. It is also very difficult for the agency to determine what actual costs were for specific aspects of service quality. VIA would need to overcome these problems to be in a position to balance the revenue impact against the increased cost of alternative service offerings and thereby minimize its dependence on public subsidies.[17]

To understand the increase in the rail-passenger deficit over the past decade, it is also necessary to take account of the additional costs associated with the administration of VIA itself. The total overhead borne by rail-passenger service (including the overhead charges passed on by the railways) increased significantly as a result of the establishment of a separate public corporation.

Proposed Changes

A number of these problems were addressed in a new bill tabled in Parliament this past February. The proposed *National Rail Passenger Transportation Act* is intended to provide VIA with the clear legislative mandate it has been lacking, to clarify the government's objectives for rail-passenger service, and to remedy problems in the administrative arrangements governing the relationship between VIA and CN and CP Rail. The immediate objective of the government is to reduce total subsidies to VIA (which include operating, capital, and labour-assistance payments) from $600 million in 1985/86 to $400 million in 1989/90.

Under the proposed legislation, VIA's role is to manage and operate passenger services so as "to minimize the need for government financial assistance." The bill establishes specific financial performance objectives for each of four categories of passenger service. In the Quebec-City/Windsor corridor the objective is for operations to cover 100 per cent of costs. This is reduced to 60 per cent on transcontinental services and to 40 per cent on regional services (i.e., Sydney-Halifax, Sherbrooke-Montreal, and Toronto to North Bay). No financial targets exist for four remote services that are considered essential.

Continued government support for these services is dependent on VIA's ability to reach the financial targets. The Act provides for the automatic termination of any corridor or regional service that fails to provide the required share of costs for two consecutive years after December 31, 1986. While transcontinental services cannot be eliminated, they can be limited to a maximum of three times per week if the performance target is not achieved. A service facing cancellation may be retained if the Governor in Council finds evidence of a promising improvement in performance or if a province or other body is prepared to compensate VIA

for the cost associated with the failure to meet the specified objective.

The new legislation allows VIA greater latitude in negotiating compensation arrangements with CN and CP Rail. Where VIA and a railway cannot reach agreement, there is provision for the Governor in Council to prescribe the appropriate payment. Compensation to the railways is to consist of a payment for the direct costs they incur in providing passenger service, plus a performance-based incentive payment that will provide a reasonable contribution towards the joint and common costs of rail operation. This is similar to the arrangements currently used by Amtrak in the United States, which are considered to be reasonably successful.[18] An important provision of the new bill requires that VIA be given whatever access and whatever information is necessary for the purposes of negotiating an agreement or verifying a charge. The bill also establishes that passenter trains are to be given priority when there is a conflict with CN's or CP Rail's other services.

Under the proposed legislation, VIA will annually submit a fare structure for the approval of the Minister of Transport. The Canadian Transport Commission will lose its authority over fares and over the frequency and level of passenger service.

Assessment of Alternatives

In assessing the proposed legislative framework it is important to consider, first, whether it will provide VIA's board and management with appropriate incentives to carry out efficiently and effectively the responsibilities entrusted to them; and second, whether it will allow VIA to enter into an agreement under which it can impose upon CN and CP Rail appropriate incentives for efficient performance. Existing arrangements fail on both scores.

By more clearly defining government objectives, the new legislation provides the basis for a much improved framework of control over the activities of VIA. The new legislation, however, does not completely resolve the inconsistency that presently exists between VIA's broad responsibility for the management of rail-passenger services and its limited authority. Under the proposed system many important decisions bearing on the achievement of government rail-passenger objectives will still be beyond VIA's control. Through its input into VIA's corporate plan and operating budget and its reaction to VIA's proposed fare structure, the government will have an important influence on rail-passenger costs and revenues. Moreover, because the government must authorize all capital spending, one of the main factors underlying VIA's poor performance — the age and low quality of its equipment — is largely beyond management control.

The basic issue involved here is relevant to most public corporations, and it will be examined in detail in Chapters 8 and 9. The general message of those chapters is that while it is desirable to clarify corporate responsibilities, it is also necessary to provide the board and management of a public corporation with sufficient power to discharge those responsibilities effectively. On the latter grounds, existing requirements for approval of VIA's operating and capital budget, along with its corporate plan, are open to criticism.

In later chapters we also emphasize the need for a comprehensive monitoring system that will provide the needed assurance that a public corporation is fulfilling its responsibilities. Under the proposed Act, VIA is required to report annually on its financial performance, both generally and by route or service. Monitoring should also include the specific examination of those costs directly under VIA's control. Expenses associated, for example, with general administration and with the provision of on-board services should be monitored, and various productivity measures (costs per mile, for example) should be examined to ensure that this portion of costs is being effectively controlled.

In considering the relationship between VIA and the government, it is also important to consider whether a quasi-autonomous entity is desirable. Would VIA's activities be more appropriately undertaken within a government department? If VIA were only a purchaser of passenger services, there would be no significant loss if it folded into an existing government department. VIA, however, is directly involved in the production process through such activities as marketing and promotion, maintenance, and the supply of on-board services. There are benefits from an arrangement that frees these activities from many of the rules and constraints applying to government departments.

The proposed legislation will also help with the second major issue — the inadequacy of the framework currently governing VIA's contractual arrangements with CN and CP Rail. Under the new bill, VIA will have the right to inspect the railways' costs and verify their charges. In so doing, VIA can rely on specific requirements in the legislation that costs be "reasonably incurred by the railway company in an efficient manner." With greater information, VIA will also be in a better position to determine the appropriate quality of passenger service to provide on various routes. Incentive payments to CN and CP will be much more important under the new system, and this should help VIA extract a better performance from the two railways. Improvements in on-time performance may still be

difficult to achieve, however, if equipment problems, for which the railways cannot be held accountable, are a main cause of delay.

The favourable influence of financial targets on VIA's bargaining position vis-à-vis the railways could be just as important as the change in costing arrangements. If the benefits in this area are to be realized, the threat that services will be terminated must be credible. It is significant in this connection that while the legislation allows the Governor in Council to delay the termination of services that have not achieved the specified financial targets, such an extension can only be provided for two years and cannot be renewed.

While the new legislation provides an improved basis for the negotiations between VIA and the railways, contracting will still remain difficult because of the structural characteristics of the rail industry. With the new provisions, VIA will be in a better position to negotiate and to enforce contractual agreements, but it will continue to be at a substantial disadvantage compared with a firm that can purchase the services it requires in a competitive market. Although VIA will, for example, have the opportunity to verify charges, this will be a costly exercise, and it will be greatly complicated in most cases by the lack of standards by which to assess the efficiency with which the contracted services are being produced. These problems would not arise if the market was such that firms were competing to provide the services that VIA requires.

These considerations are relevant because most of the services that VIA purchases from the railways are amenable to competitive supply. As we discussed earlier in this chapter, it is only the railbed itself that has the technological characteristics of a natural monopoly. There are no *inherent* barriers to entry that would cause rail carriage to be an uncontestable monopoly. If widespread access to the roadbed were available, as proposed in the previous section, rail-passenger services could be supplied through competitive tender. Existing and potential carriers could compete for a contract to provide specified passenger services, as they would for any other noncommercial rail service.

While the scope for competitive contracting is more limited under the existing framework, there are nonetheless some opportunities to be realized. Even with respect to the provision of passenger service itself, VIA could reduce its reliance on CN and CP. After negotiating terms of access to the railbed with the two railways, VIA could enter into separate contracts with individual carriers to provide specified passenger service. If contract carriers use their own, rather than VIA's, equipment, there is a greater opportunity for innovation and cost minimization, and VIA is relieved of the responsibility for monitoring maintenance and upkeep. But even if VIA's own equipment is used (which may be necessary until the supply side of the market develops sufficiently), there are likely to be gains from the introduction of competition into this segment of the corporation's activities. The carriage services that VIA has been required to purchase from CN and CP have tended to be very costly. Reflecting the lack of competitive pressure and the ability of CN and CP to pass on their costs to VIA, labour contracts have incorporated provisions — including, in particular, a payment schedule for locomotive engineers and trainmen, based on an hourly rather than a distance-related wage[19] — that are highly inimical to efforts to control rail passenger costs.

VIA has, in fact, been attempting to reduce its dependence on CN and CP, although it has chosen to do so by fulfilling more of its own needs and gradually absorbing many of the employees of the two railways who are involved in passenger activities. This is a reasonable approach for an activity such as maintenance, which requires the construction of a costly, specialized facility; the sort of long-term contract required to entice a private firm to construct such a facility would create problems not unlike those VIA has experienced in its relations with CN and CP. More generally, however, there is the danger that the expansion of VIA could make the adjustments that may be required in line with government policy for passenger transport more difficult. There is a need to enhance the adaptability of the system to facilitate the termination of those services that cannot meet specified financial targets. This can be achieved by controlling the growth of VIA's labour force and by relying, where feasible, on competitive contracting to resolve the problems posed by the corporation's dependence on CN and CP.

In general, then, we strongly support the recommendations in Bill C-97. They will provide a much-needed clarification of government objectives with respect to rail policy and improve VIA's ability to negotiate with CN and CP. Therefore,

5.2 We recommend that the much-needed reforms proposed in Bill C-97 (tabled in the 1st Session of the 33rd Parliament) be combined with policy changes (described more fully in Chapter 9) that would expand the authority of the VIA board and increase its ability to achieve the objectives specified in the Bill. We would also encourage VIA Rail to consider carefully competitive tendering as a preferred option for reducing its current reliance on CN and CP.

Air Transport

While there have been a number of public air carriers in Canada, the story of government enterprise in the

air industry is, to a considerable extent, the story of Air Canada. This corporation has consistently held a major share of the domestic market and has also served as the major vehicle of federal air policy. Until recently air policy was based on a system of regulation that was shaped mainly by the need to protect the position and role of Air Canada.

Major Historical Developments

In creating Trans-Canada Airlines in 1937 as a subsidiary of CN, the government sought to establish the same coast-to-coast link in the air that it had on the ground. The new airline was given the mandate to provide a transcontinental airline service and to perform other services "designated by the government to be in the public interest." In subsequent years the corporation's route structure was worked out by agreement between the airline and the Minister of Transport, with the regulatory authority (the Air Transport Board from 1944 to 1967) providing the formal licence approval. Trans-Canada Airlines became the main trunk-line service from the Atlantic to the Pacific. Privately owned carriers were confined to providing feeder service, mainly on north-south routes. Although CP was allowed entry into the international market in 1949, Trans-Canada Airlines retained its monopoly on transcontinental routes until 1959.

During this period Trans-Canada Airlines added routes and services in response to general political pressures, as well as specific ministerial directives. The profits on its transcontinental and international routes enabled it to subsidize service to smaller and more remote communities. In carrying out this process of internal subsidization, the corporation attempted to maintain a carefully judged overall profitability. Gordon McGregor, the President between 1948 and 1968, has described how depreciation rates were used to arrive at an acceptable rate of return:

> He (Donald Gordon, President CNR), no less than I, recognized that if in good times the company's year end results showed anything more than a marginal profit, the double-barrelled effect would be to whet the unwelcome interest of other operators in encroaching on our routes, and to make it more plausible for the government to yield to their importunities. On the other hand, in difficult times the depreciation rate could be eased, and the depreciation life of aircraft lengthened as part of the all-out struggle to achieve a black figure."[20]

Ministerial directives also influenced the airline's investments and equipment purchases. The corporation was required to purchase the North Star aircraft after the Second World War to support a fledgling Canadian aircraft manufacturing industry. The government intervened in the early 1960s to prevent the company from phasing out its Winnipeg maintenance base — an action estimated to have cost the airline $20 million between 1966 and 1973. At other times, however, the corporation's management has prevailed, sometimes in the face of considerable pressure. The corporation went ahead with its orders of DC-8F's in 1961, despite a strong aviation lobby pressuring for the purchase of the CL-44. Management similarly prevailed in 1963 in its choice of the DC-9 over the French Caravelle, although the selection provoked an acrimonious debate.

While CP Air was awarded a transcontinental route in 1959, connecting its operations at Vancouver and Montreal, this did not result in competition but rather in a system of administered market shares between the two national carriers. Competition was also limited by the Regional Air Carrier Policy announced in 1966. This established one carrier as the preferred vehicle for the development of regional and local air services in each of the five regions of the country and to the north.[21] The regional carriers were to provide scheduled services as a supplement to, and not in competition with, CN and Air Canada. The operations of the regionals were buttressed, however, by subsidies and by an easing of charter regulations that allowed them to expand into potentially lucrative long-haul markets.

The period since the mid-1970s has seen a gradual relaxation of regulatory restrictions on competition and important changes in the status and role of Air Canada (the name adopted for the national airline in 1964). In 1978 Parliament passed a new *Air Canada Act*. This attempted to remove the confusion over objectives by requiring the corporation to "have due regard to sound business principles, and in particular the contemplation of profit." The Act severed the corporation's ties with CN and provided for the possibility of compensation where Air Canada undertakes unprofitable activities at the government's behest. The Act also established the discretionary authority of the Canadian Transport Commission over route applications by Air Canada, thereby placing the corporation on an equal footing with other carriers before the agency.

Pressure for liberalization of the regulatory system was strengthened following the passage of the U.S. *Airline Deregulation Act* in 1978. By the early 1980s Canada's protective regulatory policy, founded on geographic divisions, preferred vehicles, and route protection, had been substantially eroded. There had emerged almost unrestricted competition on transcontinental routes. Regional boundaries had been breached, threatening the protection of the "preferred" regional carriers and the preservation of their charter markets. At the same time, the increase in competition exposed the weakness of the regional carriers in central Canada,

contribuing, in some cases, to their transfer from private to government ownership.[22]

A further important movement away from the policy of regulatory protectionism occurred in 1984 with the introduction of the "New Canadian Air Transport Policy." The regional air policy was scrapped, as were the designations "national" and "regional" carrier. Replacing the protection afforded incumbent carriers was a liberal, but differentiated, regulation, in which carriers were to have complete freedom to reduce fares after two years, freedom to apply to enter any route (not just those in their designated region), and easier exit. In the case of a route application, the burden of proof was shifted to those who approved entry.

Those measures have led to a significant restructuring of the industry. Former regional airlines have attempted to strengthen their market position by consolidating their licences and entering into operating agreements with smaller commuter/local airlines. The latter have moved into the short-haul routes vacated by the national and regional carriers and have entered transborder routes, as allowed by an agreement concluded with the United States in early 1984. Air Canada and CP Air have acquired some of the smaller carriers and entered into interlining agreements with others to expand the feeder routes serving their networks. While CP has emphasized the development of its national network, however, Air Canada has concentrated on strengthening its role as an international carrier.

The Effects of Ownership

Has public ownership of Air Canada made an important contribution to the achievement of government's public-policy objectives? As in the case of CN, the creation of a public corporation provided an effective response to the perceived need for transcontinental links. The creation of Trans-Canada Airlines satisfied the requirement for a transcontinental air service and foreclosed the possibility that U.S. airlines would be left to fill this role. With the establishment of a viable national airline system, however, the justification for continuing public ownership came from its contribution to federal air policy. Air Canada met public-policy objectives by establishing a rate structure that emphasized parity and concealed the differences in costs between serving large and small centres, and between short and long-distance routes.

Federal air policy depended not just on ownership, but on ownership and regulation. In other countries, notably the United States, a similar type of cross-subsidization had been implemented entirely through regulation. It has been noted that the Canadian approach was, for a period, more successful at maintaining rate equality.[23] This would seem, however, to have been less the result of public ownership than of the more rigid regulatory structure in Canada. Prior to the mid-1970s there was very little head-to-head competition in Canada's domestic airline system; by contrast, there was intense rivalry in the United States. Although the Civil Aeronautics Board (CAB) prevented the entry of new carriers into the trunk-route sector, it did not attempt to protect the territorial domain of each of the existing trunk carriers. Since the CAB regulated the level and structure of fares, competitive pressures asserted themselves mainly in the form of nonprice competition. The effect of competition with regard to flight frequency and various aspects of service quality was to force costs up to the level of fares on the supposedly profitable U.S. routes. With the disappearance of the surplus required to support cross-subsidization, U.S. trunk carriers divested themselves of their unprofitable routes.

In Canada, both public and private air carriers have played a role in implementing federal air policy and supporting public goals with respect to the rate structure. There is no evidence to suggest that private firms were any less effective than the Crown carriers in the discharge of these responsibilities. Both private and public firms engaged in noncommercial activities as long as they were able to generate surpluses in their protected services. The relaxation of competitive restraints have impacted on public and private firms, causing both of them to terminate unprofitable routes. Over the period 1960-83 CP Air terminated 12 points, which amounted to over 40 per cent of the domestic points it served. Following the introduction of the air liberalization policy (in 1984), the newly privatized Pacific Western Airlines deleted stops in the interior of British Columbia. Over the 1960s and 1970s, Air Canada terminated 10 points, or 24 per cent of its total domestic points served. And by 1982 Claude Taylor, the president of Air Canada, was able to maintain that the Crown carrier was covering its costs on all routes.[24]

While it may not be necessary to employ a public firm for the pursuit of air-policy objectives, is it more costly to do so? Is the performance of the public firm likely to be inferior to that of a comparable private firm? This is a difficult question to answer. There are problems in adjusting for all the differences between public and private airlines, including, in particular, differences in their public-policy obligations. There is some evidence that throughout the 1960s and 1970s Air Canada's performance lagged behind that of its private-sector counterparts. A study for the Council found that Air Canada was less efficient than CP Air, mainly because of the public firm's greater amount of excess capacity.[25] This in turn resulted in a lower utilization of capital, higher operating costs, and a scale of operation beyond the

optimum. The greater excess capacity of Air Canada, however, was — at least to some extent — a result of the airline's public-policy constraints and obligations.

To come to an overall assessment, it is also necessary to consider the possible influence of public ownership and the public enterprise on the performance of other firms in the industry. Air Canada, as the largest carrier with an extensive international, as well as domestic, route structure, established wage and benefit standards, along with employment rules and practices for the industry. It also had a significant influence on the government policy of protective regulation. The Crown carrier was, for example, a strong proponent of what became, in 1966, the regional air policy.[26] Evidence indicates that this policy significantly penalized the regionals by preventing them from realizing the economies that accrue from serving longer routes.[27] More generally, one could surmise that a very different regulatory structure might have developed in the absence of a publicly owned national carrier. It is certainly conceivable that the alternative would have been a policy framework more favourable to the efficient development of private carriers in the industry.

Deregulation and Public Ownership

The proposed amendments to the *National Transportation Act* would virtually eliminate the remnants of domestic airline regulation. Entry into domestic commercial air service would be determined by whether the carrier was "fit, willing, and able," with these terms defined to emphasize basic safety and insurance requirements. There would be essentially no regulation of domestic tariffs. Licence restrictions with respect to type of aircraft, routes, points to be served, and so on would be eliminated. And carriers would be allowed to discontinue or reduce service, provided they gave at least 60 days' notice.

Potentially more important for the future, however, is the possibility of increasing Canada-U.S. trade in air services. As a result of the proximity of the Canadian population to the U.S. border, Canadian carriers have already experienced some of the competitive impacts they would incur if their services were traded.[28] Some recent initiatives have somewhat relaxed restrictions on the cross-border activities of Canada and the United States, and the government has indicated its intention to negotiate agreements that will lead to increasing North American competition.[29]

Public-policy objectives with respect to the price and quality of air service can be efficiently pursued within a deregulated industry. Air service does not involve specialized investment of the sort that would lead to the contracting problems referred to in Chapter 3; noncommercial services can be efficiently "purchased" from competing carriers. Following deregulation in the United States a successful program of direct subsidies was introduced to support "essential" air services. Experience suggests, moreover, that when regulatory restrictions are lifted and carriers with more appropriate equipment are allowed to fly the less densely populated routes, there is often no need for a subsidy; local carriers can often run low-volume routes profitably.

In an earlier Council study we elaborated on the potential gains to be derived from a deregulated airline industry.[30] The question for the present purpose is whether such gains can be fully realized in an industry in which the dominant participant is publicly owned. First, would Air Canada have an unfair advantage because of the preferences available to it as a public corporation? Fair and effective competition between publicly and privately owned firms is certainly possible in principle. While public firms have access to the "long purse" of the state, this may not translate into a competitive advantage if the government enterprise is required to earn a return based on the appropriate opportunity cost of capital. It is no simple matter, however, to establish mechanisms to enforce this discipline on the managers of public corporations. As a consequence, managers may not be penalized for bad decisions, and they may not feel the pressure to make decisions that will improve corporate performance.

There is also the question whether policy makers can detach themselves sufficiently from a public corporation to accept the results of the competitive process. Even with administrative arrangements that emphasize the arm's-length relationship between the government and the corporation, policy makers will inevitably have some involvement in major corporate decisions. Given the responsibility that accompanies this involvement, it becomes very difficult for policy makers to remain indifferent to market pressures that threaten the commercial success of the government enterprise. There may be a strong temptation to provide any required support or protection to the enterprise. The effect, again, will be to reduce the pressure for necessary corporate adjustments.

Problems can also arise if public ownership inhibits management's ability to undertake initiatives designed to enhance corporate performance. Air Canada has been required to submit its corporate plan and capital budget to the government for approval. In preparing their corporate strategy, management of the Crown carrier must, of necessity, consider the reaction of policy makers. The resulting constraint is likely to be of particular significance where corporate decisions touch on politically sensitive issues, such as employment, the locale of corporate operations, and employee compensation.

These considerations are of particular importance because of the need for major adjustments within the Canadian airline industry. The operating costs of Air Canada and CP Air significantly exceed those of the more efficient carriers that are setting the pace within the U.S. airline market.[31] Canadian carriers will need to substantially increase their efficiency and reduce their costs if they are to be in a position to prosper in a competitive North American market.[32] Public ownership would entail serious consequences if it impaired the ability of Air Canada to adapt to the rigors of North American competition.

Alternatives to Public Ownership

Public ownership is no longer required to meet the traditional public-policy objectives underlying federal air policy. The system of cross-subsidization that had been in effect has been substantially eroded. Although the Crown carrier may be expected to support federal employment and regional-development goals, its role in this area is a minor one. There are, moreover, other instruments better suited to achieving those public-policy objectives. Air Canada has played a role in promoting the federal policy of bilingualism; but, again, this does not justify continuing public ownership.

The most significant benefit of public ownership may be noneconomic — the satisfaction that Canadians derive from the existence of a national carrier. The psychic value of public ownership may be significant, although it is difficult to assess. One might also expect that it changes over time; presumably the perceived benefits from possessing a national carrier are different today than earlier in the century when Canadians needed greater reassurance as to the strength of the links binding the country politically and commercially.

If there is a desire to retain Air Canada as a public carrier for symbolic reasons, can the costs of public ownership be reduced? They can be reduced through rigorous procedures for administration and control (as we discuss, more generally, in Chapters 8 and 9). But an administrative arrangement cannot prevent governments from introducing protective measures that blunt the impact of market forces or from imposing constraints that reduce the opportunity for substantial organizational adjustments.

Another alternative is a partial sale of equity. A partnership between the public and private sectors is an ostensibly appealing means by which to combine the benefits from possessing a national carrier with the advantages of having equity that is subject to market trading. There are constraints on the government's ability to intervene in the activities of mixed enterprises, and this is an important consideration in view of the concerns cited earlier. Problems in establishing adequate control mechanisms, however, lead us to reject the mixed enterprise as a long-term alternative to complete public ownership of Air Canada. We elaborate more generally on the concept of mixed enterprises and the advantages and disadvantages of this organizational form in the next chapter.

All things considered, we believe there is a strong argument for the privatization of Air Canada. As a private corporation, Air Canada will be in the most favourable position to meet the challenge of increasing North American competition. Privatization will not lead to the sacrifice of important public-policy objectives. The primary loss would be felt by those who place a high value on the symbol of a government-owned airline. This may not be as important as it has been in the past; opinion polls suggest a more favourable public attitude towards the privatization of major Canadian corporations.

While Air Canada should be transferred to the private sector, the question of timing requires careful consideration. An immediate sale of equity could jeopardize the reforms that are to be introduced under the proposed revisions to the *National Transportation Act*. While these reforms will have important benefits over the longer term in contributing to a more efficient airline industry, the threat of increased competition could reduce the expected earnings, and hence the share value, of Air Canada. The sale of even a portion of the government's holdings could give rise to significant opposition to the passage of the proposed reforms. The new owners could, moreover, be a significant political force, even if they obtain their shares at a price that reflects the influence of proposed reforms. Given these concerns, we believe the privatization of Air Canada should await passage of the proposed revisions to the *National Transportation Act*.

The process of privatizing Air Canada raises a number of complex issues. For example, as an enlightened employer the federal government has a responsibility to minimize any transitional problems that may confront the corporation's workers. The government also has certain commitments to the providers of capital; indeed, most of the corporation's borrowing explicitly requires that terms be renegotiated upon a change in ownership status. Beyond this, there are questions about how equity should be sold and what restrictions, if any, should be placed on share ownership.

In general (and as we discuss more fully in the final chapter), restrictions on share ownership are undesirable because of the important contribution the unrestricted operation of the capital market can make to economic efficiency. There may be a substantial cost to restric-

tions that limit the share holdings of individuals, as well as to restrictions that limit ownership to Canadians or residents of a particular jurisdiction. In terms of efficiency, attention should primarily be paid to ensuring that the sale of the corporation to another firm does not result in undesirably high levels of concentration in an industry.

In the case of Air Canada, the strategy of privatization must also give recognition to the attachments Canadians have formed as a consequence of the special role of this corporation in the country's history. Although many Canadians can accept the privatization of Air Canada, we think it would be quite another thing for them to come to terms with a divestiture leading to foreign control of the corporation. The shares of Air Canada should, in our view, be made available through a general public offering that gives priority to Canadian citizens. There should be no restrictions on share ownership; trading in the corporation's shares should, instead, be governed by the general legislation that exists to prevent acquisitions and other developments that are contrary to the public interest. Along with provincial securities legislation, this includes the *Combines Investigation Act*, which provides a mechanism to challenge mergers with potentially serious anticompetitive consequences. Also relevant is the *Investment Canada Act*, which establishes a review process for foreign takeovers (direct and indirect) of large Canadian firms.

Therefore, to ensure that the gains from a deregulated airline industry are fully realized,

5.3 We recommend that Air Canada be privatized. Divestiture should, however, await passage of the proposed revisions to the *National Transportation Act*, so it does not affect the introduction of these important reforms. The corporation should be sold through a broad share offering made initially only to Canadians, but no specific legislative restrictions should be placed on individual shareholdings.

Conclusion

The experience of the transport sector underlines the need for a continual re-evaluation of the role of public corporations. Objectives change over time, so that a government enterprise created for a particular purpose may no longer be serving a valid objective, or it may be filling a role for which it is not suited. Markets also change; the implications of employing government enterprise may be very different from what it was at an earlier time in a very different commercial environment. Moreover, new information will be gained over time on the costs and the effectiveness of this instrument; the results may depart considerably from calculations underlying the initial decision to establish a public enterprise.

The transport sector has been very much subject to these types of change. There have been a number of major shifts in the focus of public policy since the creation of Air Canada and CN Rail. The current emphasis on the commercial role of these enterprises has been accompanied by a more general change in policy orientation designed to realize the possibilities from increased intramodal competition in the airline and rail-freight industries. In the case of VIA, concern over rapidly mounting deficits has forced the government to look at mechanisms for controlling costs and also to consider the benefits of passenger-transport services and the degree of public support that particular services warrant. In the case of all three firms, existing organizational arrangements are no longer consistent with government policy requirements, and major reforms are now called for.

6 Government Enterprise as an Instrument of Industrial Policy

On various occasions over the years, federal and provincial governments have acquired or created commercial enterprises in order to promote industrial development. Broadly defined, industrial policy comprises the whole range of industry- or sector-specific government measures that help influence the evolution of a country's industrial structure.[1] Although the tempo and magnitude of government intervention at the microeconomic level have greatly increased over the last quarter-century, Canadian governments have always pursued industrial policies of some kind. These policies have involved the use of the complete range of instruments at a government's disposal — taxes, regulation, tariffs, subsidies, loans, loan guarantees, public ownership, and so on. And the focus has been extremely broad. Industrial policies have reflected government perceptions about the inadequacies of the market system and the need to influence the allocation of resources so as to provide higher living standards and increased employment opportunities. They have also reflected particular national or local concerns, such as the desire to promote increased Canadian ownership of a sector, to broaden the economic base of a region, and to bring development to a remote region of the country.

While a number of the policies examined in other chapters could conceivably fall under the label of "industrial policy," our intention in this chapter is to analyse government enterprise in the context of certain forms of intervention more generally associated with this term. Though not confined to manufacturing, industrial policies have been heavily oriented towards this sector. The relevant firms generally operate in competitive markets, free of the price and entry regulation that was such an important factor for the firms examined in Chapters 4 and 5. Industrial policies may also be characterized by their two broad orientations: on the one hand, to promote risk taking and to improve the productivity and competitiveness of Canadian industry; on the other, to overcome the dislocations and alleviate the hardships that are a product of economic change. These two policy orientations are not necessarily in opposition. Both can be a direct response to market gaps and inefficiencies. As well, policies to assist those who are affected by change can make economic growth more acceptable and politically more feasible. Nonetheless, the two policy strands are sufficiently distinct that they provide a useful focus for the examination of industrial policy.

In this chapter, we examine the role of government enterprise in promoting growth and in assisting those who are adversely affected by growth. The first — involving such corporations as the Canada Development Corporation (CDC), the Urban Transportation Development Corporation (UTDC), Atomic Energy of Canada Limited (AECL), de Havilland Aircraft Company of Canada Limited (DHL), and Canadair Ltd. — is discussed in terms of the role of government as entrepreneur; the second is represented through an examination of government-enterprise bail-outs — i.e., Cape Breton Development Corporation (DEVCO), Sydney Steel Corporation (SYSCO), and Fishery Products International (FPI). In pursuing industrial policies, governments have relied not only on wholly owned corporations but also on mixed enterprises — i.e., CDC, and subsidiaries of the Société générale de financement (SGF) and the Caisse de dépôt et placement du Québec (the Caisse). The latter is, in a sense, a distinct policy instrument in its own right, and it is examined in a separate section of the chapter.

Government as Entrepreneur

In this section we examine public enterprises that owe their creation in some part to perceived inadequacies in Canadian capital or entrepreneurial markets. A main purpose of these enterprises is to overcome, or compensate for, market deficiencies that are seen to be reducing the rate of economic growth. But this is seldom the only objective; the desire to have a Canadian-owned firm represented in an important sector and to display Canadian technological capabilities has figured prominently in the creation of a number of these corporations.

Our discussion is organized around particular objectives, which in most cases relate to alleged market gaps or inadequacies. In each case we shall consider — following the framework in Chapter 3 — whether the objective is valid and, if it is, whether public enterprise represents the most appropriate policy response. We use particular corporations to illustrate each section of the discussion, although, in fact, some of the corporations serve several objectives and could be discussed under more than one heading.

The performance of the public corporations that might be considered to be fulfilling an entrepreneurial

role (in the sense discussed above) has, by and large, been disappointing. Most of the firms we examine are involved in the development and marketing of new technologies. They are generally competing in dynamic and evolving (as distinct from mature) industries, and this has resulted in special difficulties of monitoring and control. In addition, these firms seem especially prone to the problems that arise where those who are responsible for monitoring an enterprise become its supporter and advocate. Nonetheless, it is not always the case that there exists a clearly superior alternative to government enterprise. In these cases, the value and importance of the objectives themselves must be carefully considered.

Overcoming Capital Market Gaps: The CDC

While Canadian capital markets are reasonably efficient, it has long been believed that there are certain weaknesses in terms of the availability of risk capital for new and small firms, and, at the other margin, for capital-intensive megaprojects. An earlier Council study found that small firms, indeed, face disproportionately high costs in issuing equity and that they are also disadvantaged by the investment practices of major financial institutions.[2] While venture-capital firms have helped to serve the needs of small enterprises, they play a relatively minor role in providing business finance.

Limited government-equity participation could help to address the problems in this area, but such participation would need to be targeted at the specific market segments that are experiencing difficulty in obtaining equity. Since, however, some of these difficulties are due to institutional restrictions imposed or tolerated by governments, the amendment or removal of these restrictions may be a more reasonable solution.[3] Possibilities here include: relaxing the restrictions on the permissible equity investments of life insurance companies, trust companies, and pension funds; and reducing the requirements for obtaining a listing on a major stock exchange.

The *Canada Development Corporation* was created in part because of a pessimistic view of the state of Canadian capital markets. The CDC was first proposed by Finance Minister Walter Gordon in 1963 as a vehicle to buy back foreign-controlled firms operating in Canada. The enterprise that ultimately emerged in 1971 was intended to mobilize Canadian savings, not for buyback purposes but for developmental ones. To this end, the CDC was to operate like any other profit-seeking investment holding company, except that it would do so with funds from ordinary Canadian investors, many of whom had not previously purchased equities. The intention was that, over time, this would result in increased Canadian control of the economy and also contribute to the development of indigenous entrepreneurial and management capabilities.

The CDC has grown to become one of Canada's largest conglomerate firms, with assets in excess of $7 billion. It is a mixed enterprise that, until recently, was subject to just under 50 per cent government ownership. Public control has not deflected corporate management from profitable pursuits, although the government's original pledge of noninterference has been tested on at least one occasion.[4] But the corporation's record as a finder and developer of large, profitable Canadian business enterprises has, on the whole, been poor.[5] The CDC's average rate of return over more than a decade has been roughly half that of the average firm in Canada's industrial sector. Of the three areas in which the corporation has concentrated its investments, only one (mining) has generated earnings roughly comparable to those of the average firm in Canada's industrial sector. The corporation's earnings in other areas, including its two other fields of concentration (petrochemicals, and petroleum and sulphur), have been disappointing.

The CDC has contributed to increased Canadian ownership, but at substantial cost. It has not succeeded in attracting the savings of Canadians who were not typically equity investors. A 1976 survey found that CDC shareholders were typical of traditional equity investors and that 80 per cent of them held common shares of other companies.[6]

The CDC's poor performance over a fairly long interval raises serious doubts about the appropriateness and feasibility of its primary mandate — to "pick winners" in the Canadian marketplace. This is a very difficult thing to accomplish in countries with capital markets as sophisticated as Canada's. Moreover, the CDC chose to fulfil its mandate by investing largely in firms whose shares are traded on Canadian stock exchanges; a very minor proportion of the corporation's funds have gone towards supporting venture-capital firms. While there is a role for large conglomerate organizations that can achieve efficiency gains through their capacity to monitor their holdings closely,[7] there is no absence of such corporations in the Canadian market. In other words, there exists an active and healthy takeover market. Moreover, the CDC may have been at a disadvantage in competing in this market to the extent that management's choices were constrained by an implicit understanding of their need to contribute to increased Canadian ownership. The performance of CDC also bears more generally on the role of mixed enterprises — an issue to which we shall return later in this chapter.

Promoting R&D: The UTDC

One market deficiency of potential importance relates to the inability of private investors to appropriate the full return from investments in research and development (R&D). It is very difficult for an individual or firm to prevent others from sharing in the new knowledge generated from research efforts. Because they cannot fully appropriate the benefits, firms will tend to underinvest in inventive activity. Governments have responded to this problem by creating limited property rights in the form of patents, partially to protect innovations, and by providing financial incentives for research and development. But while patent protection encourages R&D, it does so by creating a limited monopoly, and this entails costs in terms of allocative efficiency. It may sometimes be more efficient for government to overcome the underinvestment in innovative activities by investing, itself, in R&D and distributing the results freely to private producers.[8]

Government may also want to invest in R&D because it has a requirement for equipment with certain unique characteristics and capabilities to help it effectively fulfil its own responsibilities. While national defence requirements come most readily to mind, new technological products may be sought to support the provision of any one of a number of public services.

Where governments decide to invest in R&D, they can do so by contracting with private firms or by undertaking the desired innovative activity within the public sector. Contracting-out will be desirable where private firms can perform the research at lower cost, and this saving is not offset by costs of contract negotiation and enforcement. As we noted more generally in Chapter 3, certain types of activities do not lend themselves to a contractual arrangement. It will be more efficient to undertake research within the public sector where, because of either the nature of the research problem or the uncertainty regarding related events, it is impossible to specify a contractual arrangement that can reasonably be enforced; or where the need for specialized, long-term capital would tie the research contractor and the government into a situation of mutual dependency.[9]

One of the most experienced purchasers of technologically advanced systems has been the U.S. Department of Defense (DoD). The experience of DoD well illustrates the difficulties of contracting out in this area. Over the years, DoD has experimented with a number of contracting arrangements in an effort to develop better control over the cost of developing major weapon systems. This has involved the use of various incentive contracts designed so as to allow contractors to benefit from trying to keep costs as low as possible.[10] Studies suggest, however, that contractual arrangements have had little influence on final outcomes.[11] Notwithstanding the introduction of incentive provisions, contracts have generally not influenced events; rather, causality has tended to run in the other direction, with contracts being modified on a regular basis to respond to events. The problem here is the familiar one in which one of the contracting parties is "locked in" to the arrangement. Having made a substantial investment in a project, DoD is faced with the choice of losing that investment or of making the further financial commitments required to bring the project to completion. Since the marginal investments required to complete a project have a very high return, the DoD is vulnerable to demands from the contractor to amend agreements to reflect cost overruns, time slippages, and performance deficiencies.

While public production offers an opportunity for closer monitoring and for imposing a discipline that does not exist with the type of fluid contractual arrangements that typically apply in the development of technologically advanced products, it poses risks of a different nature. These risks stem in part from the internal dynamics of government, which may lead to pressures for a research facility to expand well beyond what is justified on the basis of the corresponding social benefits.

In this connection, the experience of the *Urban Transportation Development Corporation* is instructive. The UTDC was created by the Ontario government in the early 1970s, following a decision to cancel the Spadina Expressway project in Toronto and the announcement by the provincial government of a new policy involving "appreciably greater assistance for rapid transit services."[12] The corporation was to provide a research and development capacity for urban transportation systems and to serve as a vehicle to facilitate the government's immediate objective — the development of a new form of intermediate capacity transit system (ICTS). The legislation provided for the possibility of the corporation's becoming a manufacturer, but this was not an initial objective. In 1973, government expected that the corporation would have 40 employees — increasing perhaps to 70 in peak periods — and that much of the research and all development work and manufacturing would be farmed out to the private sector.[13]

A decade later, UTDC had become a major supplier of urban transit systems, equipment, and services. In 1983-84 the corporation had 1,000 employees involved in the production of transit equipment and in the design, development, manufacture, operation, and maintenance of mass transit systems. The UTDC has operated substantially in a loss position over the 10 years. The financial results need to be interpreted carefully, however, because they incorporate the effect of various government measures. The Ontario government has provided assistance to the corporation directly and through

support for UTDC sales but has also constrained management by requiring that the company source specific purchases in the province.

The establishment of a government enterprise to undertake R&D in urban transportation can be partly understood in terms of the problems of contracting-out. It may have been very difficult for the government to specify and enforce a contract to provide for the development of a complex new transportation system geared to the requirements of Ontario municipalities. The establishment of a public research corporation could be a reasonable response to this problem. But while this may have been the best way to support R&D, it is not at all clear that such support was justifiable from the perspective of Ontario taxpayers.[14] While Ontario citizens would bear the costs, many of the beneficiaries of a new mass transit technology would reside in other provinces and, indeed, in other countries. It is difficult, as well, to justify the expansion of UTDC into manufacturing and related production activities in terms of contracting problems.

The growth of UTDC illustrates the impetus that a public corporation with political support can acquire. It has been suggested that government's commitment to UTDC was the result of a number of factors: the government's need to avoid another setback following the demise of its attempt to establish an experimental ICTS project based on West German "maglev" technology; the close personal relationship between the Premier of Ontario and the President of UTDC; and the mutuality of interest between corporate management and provincial public servants who saw the corporation as a component of the province's urban transportation policy.[15]

More generally, given the potential costs associated with direct government investment in R&D — whether this be undertaken by public firms or private firms under contract to the government — it is necessary to look at whether superior alternatives exist. Where government is purchasing technologically advanced products for its own specific needs, the only choice is between public production and public purchase under contract. In this case public production will tend to be desirable if the contracting problems are sufficiently great and if government requirements are sufficiently large or recurring. The establishment of a system for ongoing evaluation of public commitments to an R&D program will contribute to the realization of these advantages. (This is discussed further in Chapters 8 and 9.)

Where public intervention is intended to encourage R&D more generally, subsidies combined with limited patent protection will generally tend to be the preferred approach. When the state subsidizes R&D, it is supporting the production of information; it need not concern itself with the outcome of the research process and the use made of the information, as it would if it were contracting for a specific innovation. This more limited degree of public involvement is generally all that is necessary or appropriate to compensate for the disparity between the social returns and the private returns from generating new information.[16]

Encouraging Risk Taking: AECL

Another possible rationale for the state to assume the role of entrepreneur derives from the argument that the public sector can achieve economies in the costs of bearing risk. The fact that risk can be reduced by diversification suggests that there are advantages to large ownership units. By undertaking a large number of projects, the outcomes of which are independent of each other, the state is able to reduce the variance of the rate of return (or risk) and possibly eliminate it entirely. It has been argued that, along with these advantages of risk pooling, public investment provides the benefits of risk spreading.[17] When the government undertakes a project, each individual taxpayer bears such a small proportion of the total risk that the burden is negligible and can be ignored.

The possible advantages of the state pooling and spreading risks have been the subject of much discussion and debate.[18] It has been noted that the returns on projects undertaken by the state may be correlated with the business cycle and thereby with each other, so that pooling may not substantially reduce risk. Also, for many public projects the relevant benefits and costs are not spread over the whole population but rather over a subset of taxpayers; the share of the project borne by each member of this subset is significant, so the requirement for payment of a risk premium is not eliminated.

Of course, well-functioning and reasonably efficient security markets exist, and these also provide a mechanism for risks to be minimized. Through the stock market, firms are able to spread risks, so that even very large corporate losses will entail small personal losses. Large private firms also engage in risk pooling by spreading their investments among projects whose returns are relatively independent of each other. Moreover, the risk spreading that occurs in the market is a reflection of individual preferences; this is superior to what occurs when the government undertakes the investment and forces all taxpayers to share in the risk, even if they would have chosen not to do so.

The compulsion associated with public risk sharing would be warranted if it were likely to yield substantial benefits in terms of risk reduction. This would be the case if the government could respond efficiently to those

situations in which private risk spreading is very difficult and costly. We referred earlier to the deficiencies of the capital market in providing equity for small firms and for major projects requiring large pools of capital. It may not be possible or desirable to resolve these problems entirely through the removal of various institutional restrictions. There may therefore be opportunities for direct state involvement to reduce the difficulty and costs of assembling risk capital in certain situations. Even in these cases, however, benefits will only be realized to the extent that governments can effectively resolve the resulting monitoring and control problems. It may well be that the costs of closing the relevant market gap through public investment or public equity participation exceed the benefits that are available.

The development of the CANDU nuclear reactor is an example of a project in which the amount of the risk involved and investment required are such as to suggest a significant role for government. *Atomic Energy of Canada Limited* can trace its origin to a nuclear-energy research facility established during the Second World War. In 1952, AECL was made a separate Crown corporation, owing in part to the increasingly commercial nature of its activities. The corporation operated on a modest scale in its early years and earned a significant reputation as a consequence of its research into the peaceful uses of nuclear energy. It was not until the early 1960s, when the corporation committed itself to completing a prototype nuclear station for Ontario Hydro at Douglas Point, that the CANDU system became a dominant preoccupation. Cumulative spending on R&D for the CANDU nuclear generating system has mounted over the years; by one estimate, it had a value of $14 billion (in 1981 dollars) as of 1981, using a 7.5 per cent real discount rate.[19]

There have been a number of attempts to compare these and related development costs — associated with the write-off for prototype reactors and heavy water plants — with the benefits provided by the CANDU system, which consist primarily of lower electrical generation costs.[20] While some studies have found the balance to be highly unfavourable, the evidence is not conclusive, and much depends on the particular discount rate that is applied. What is of particular interest in the present context, however, is the light that AECL's experience sheds on the control problems associated with the development and commercialization of a complex technology.

The problem of monitoring performance that arose with respect to UTDC is magnified in the case of a corporation such as AECL. The test of the CANDU program is AECL's ability to sell reactors in competition with rival technologies. But in this product market there is an extraordinary delay between the start of research and the time when a reasonable assessment of performance can be made. In such circumstances "when success or failure is at best known in the long run, a modicum of ingenuity can rationalize virtually every temporary setback."[21] There may also be a greater temptation in such a situation for politicians "to consume benefits in the present and transfer political costs to the future."[22]

It has been suggested that AECL made a strategic error in remaining tied to the domestic market during the crucial expansionary period for the U.S. reactor industry between 1966 and 1974.[23] A sale to a U.S. utility would have provided an important boost at a critical period. The poor export prospects during that period have been attributed to the difficulties encountered in producing heavy water and the delays in making the Douglas Point plant operational. These problems have been seen, in turn, to reflect the problems that AECL experienced in adjusting from a research organization to a commercially oriented enterprise. A corporation with stronger commercial ambitions would have worked harder to dispel customer concerns about the cost and availability of heavy water and would have expended greater effort to get Douglas Point on stream in a timely fashion.[24]

An alternative organizational arrangement would have been for the CANDU system to be developed by a private firm under contract to the government. Given the general problems associated with the procurement of technologically advanced systems, however, there is no reason to believe this would have been a superior alternative. The U.S. Atomic Energy Commission contracted out the construction of a number of light-water reactors in the 1960s, and its experience was similar to that of the U.S. Department of Defense, as previously discussed. Incentive contracts with private firms could not limit costs or control schedules:

> Because the product was unique, initial contracts could be little more than guesses; when these guesses turned out to be wrong, the response was to rewrite the contract rather than to abandon the project.[25]

The experience of AECL itself in working with private industry lends support to these concerns. One of the first major projects in Canada's nuclear program was the development of a Nuclear Power Demonstration Reactor (NPD), in which much of the design and construction work was undertaken by Canadian General Electric Company (CGE). By the time NPD was completed in 1962, costs had escalated from an original estimate of $13.5 million to a total of $32.8 million. Some of this increase was due to a design change, but part of it is generally acknowledged to have been the result of poor cost control on the part of CGE.[26]

Still another possibility was for the government to have encouraged a private firm to undertake development of the CANDU as a commercial proposition. But given the small and uncertain Canadian market, the amount of support required to attract a private producer would almost certainly have been such as to leave the government bearing a major portion of the cost and a large share of the risk. The contractual problems involved would not have been dissimilar to those which we discussed in connection with the procurement of technologically advanced systems. In both cases, the government would have borne much of the consequence of decisions over which it had relatively little control. By comparison, public production at least allows for the possibility of much closer monitoring by those responsible for overseeing the expenditure of public funds.

An organizational arrangement that we believe has considerable appeal for major projects of this nature is a consortium composed of both private and public participants. Mixed ventures of this nature are not without their problems, as we discuss more fully in a later section. There is a need to establish explicit limits on government participation in, and commitment to, such projects. But there are advantages to an arrangement that allows government to share risks, along with the responsibility for monitoring and control, with private firms. Private-sector involvement, if it is substantial enough, should provide some useful pressure for the abandonment of projects that have little potential; such an arrangement could thereby increase the possibility of avoiding disastrous losses.

Regardless of institutional arrangements, however, it is partly because of the nature of projects such as CANDU that spectacular successes and failures will occur:

> The history of government efforts to push forward technology is one of great successes and staggering failures. The atom bomb and the computer were developed; a man was sent to the moon. But the breeder reactor absorbed billions before expiring, and the synfuels project has done no better. The space shuttle is not a disaster, but it has been much more expensive and less reliable than had been hoped.[27]

Fostering Canadian High Technology: de Havilland and Canadair

In many cases (including those discussed earlier), public enterprise is not only, or mainly, a response to market failures. The federal government's acquisition of de Havilland and Canadair, for example, were motivated by a number of factors, not the least important of which was the desire to gain Canadian control over the aerospace industry.[28] In these and other cases, the development of a domestic industry may be valued simply as an assertion of Canada's technological capabilities.

When public-policy goals are defined very narrowly — for example, to create a Canadian aerospace industry — the policy maker's options are greatly constrained. Our examination of the two Canadian aircraft manufacturing companies — both of which have now been privatized — provides further evidence of the high costs of employing public corporations to pursue such an objective. If the government's commitment to the development of technological excellence is given expression through a contractual arrangement with a private firm or a mixed enterprise, however, major difficulties may also be encountered. This is illustrated by examining the experience of Consolidated Computer Incorporated.

The experience of *de Havilland Aircraft Company of Canada Limited* provides an additional perspective on the problems of developing and marketing a new technology. De Havilland was acquired from its British parent, Hawker Siddeley, in 1974 — six years after the federal government had started to support the development of the Dash 7 short-takeoff-and-landing (STOL) aircraft. The public corporation operated with a very narrow product base and was especially vulnerable to a downturn in the business cycle. Slower-than-expected sales of the Dash 7 and higher-than-expected development costs for the Dash 8 forced the company into increasingly difficult financial straits in the early 1980s. With the recent sale of DHL to Boeing Corporation, it has now come full circle.

Studies of the development of the Dash 7 and the Dash 8 provide the impression of a decision-making process in which commercial considerations were secondary to technical ones.[29] This pertains to decision making not only in the corporation but also in government; policy makers had memories of the repercussions from the termination of the Avro Arrow program in 1959, and they were attracted by the opportunity for Canadian leadership in a promising new aircraft technology. This helps to explain federal support for two projects that by most commercial standards would have been judged extremely risky. Prior to the takeover of de Havilland, government subsidized the Dash 7 on the basis of sales forecasts, in which the parent corporation, Hawker Siddeley, itself had little confidence. Sales forecasts of the Dash 7 (250 units by 1982) were officially maintained for some years after the acquisition, although this figure had become increasingly unrealistic.[30] In the case of the Dash 8, there were substantial risks inherent in undertaking to compete with a number of heavily subsidized foreign producers for a very limited market.[31]

The experience of de Havilland also illustrates the difficulty in implementing a coherent planning system within a public corporation. While this affects all enterprises, it applies with particular force to corporations in dynamic and evolving market sectors. It has been noted that in the development of the Dash 8, "certain decisions, especially those concerning the product line, were made by the company, while others, especially the financing ones were made by the government." And "at no point does there seem to have been any amalgamation and rationalization of this process."[32] As a consequence, financing constraints were not a factor in the early planning stages when alternative options were being considered. Moreover, it has been claimed that disagreements over the financing arrangements that were finally approved undermined management's commitment to, and sense of responsibility for, the project.[33]

While it is possible to achieve a better integration of corporate and public decision-making processes, the basic problem at issue here is not simply one of administrative arrangements. Governments inevitably have multiple and ever-changing objectives. In balancing contending interests, it is only reasonable to expect that policy makers will want to keep their options open as long as possible. Public bodies cannot replicate the unified and coherent planning process that exists within private corporations. As one observer put it:

> ... government is not a single massive organization peopled by persons all drawing in common towards a well articulated goal. It is more like an octopus whose legs are all wandering in an uncoordinated fashion, often at cross purposes and with conflicting goals. Somehow the behemoth makes some progress in one direction or another.[34]

The story of the problems befalling Canada's other public aircraft manufacturing firm, *Canadair Ltd.*, are now well-known. The company was purchased by the federal government at the end of 1975, when it appeared that the U.S. parent would close the plant located in the suburbs of Montreal. A decision was made shortly thereafter to develop an executive jet designed by Bill Lear, although this was an area in which the management team lacked experience and expertise.

An account of the corporation's subsequent problems[35] has pointed to a number of causal factors, including: management's willingness "to promise whatever was necessary — price financing, specifications, delivery dates — in order to sell aircraft";[36] overoptimism about sales prospects; and an underestimation of the technical and production difficulties in designing and producing both a new airframe and a new engine. The consequence of these errors was obscured for several years by a system of program accounting that allowed Canadair, along with other aircraft manufacturers, to spread development expenses over the life of a program. In Canadair's case, costs were calculated "not upon the number of planes it could reasonably expect to sell but upon the estimated break-even number of sales."[37]

The mechanisms available for monitoring the corporation included the board of directors and a senior interdepartmental review committee with representatives from four departments. The hearings of the Public Accounts Committee (1983) highlighted the serious deficiencies that characterized the operation of these bodies. In reviewing the situation retrospectively, one government overseer concluded:

> I believe that the government has some measure of responsibility for what took place.... That measure of responsibility is based on an institutional system within the government that was not designed or intended to be designed to react to a very quickly changing, negative commercial situation. The attitude of the government for several years towards these corporations, and indeed towards others, had been that of a responsible but passive shareholder.[38]

The Canadair experience differs from the other situations we have examined because of the greater importance attached to employment considerations. There were also special factors complicating the monitoring exercise in this case. These arose from the nature of the corporation's accounting system; from the use of letters of comfort — a device that allowed the government to underwrite the corporation's borrowing without providing parliamentary notice; and from the failure to subject Canadair to the *Financial Administration Act*, which would have imposed additional reporting and auditing requirements. At the same time, however, there were some important recurrent factors: the need for a significant period of planning and development, and the inherent difficulty of assessing management performance during this phase; the allure of a new technology that presented an opportunity for those involved to make their mark in the industry; and a monitoring system that accorded an important role to those within government who had been involved in many of the crucial decisions made in earlier stages and who tended to be supporters of the project.

Of course it is not just government enterprises that are liable to miscalculations and errors of judgment. When it comes to the development of new technologies, there are inevitably significant risks. And owners of public, as well as private, firms must contend with the problems of assessing management performance during potentially long phases devoted to research, planning, and development. The clearly defined interest of the owners of private corporations and the existence of mar-

ket mechanisms to promote that interest, however, will usually limit the extent of those errors. In the public sector, where there is not the same clarity of purpose and where there is the ever-present danger that the problems identified may have highly unfavourable political consequences, corrections are likely to come much more slowly. While these aspects affect public enterprises generally, they are of less concern where corporate performance can be relatively easily assessed. They are, of necessity, an important consideration in the case of the technologically oriented corporations that we have examined, where the difficulty in assessing performance makes it all the more possible to postpone the day of reckoning.

As an alternative to public ownership, the government may pin its hopes on, and channel its support to, a private firm. Many firms, of course, receive financial assistance. The cases that are of interest, however, are distinguished by the extent of the support provided by the government and the acceptance of the role of the corporation as an important vehicle of public policy. The absence of other producers who are able to address the same mix of policy objectives will make it more difficult to assess the support requested by the firm and will result in greater reluctance to terminate support as circumstances, or the firm's prospects, change.

Support often takes the form of loan guarantees, which result in the government's bearing a disproportionate share of a project's downside risk. Management of a private firm thereby has an incentive to undertake riskier initiatives that will increase the value of the guarantee as a corporate asset. Extensive monitoring will be required to guard against excessive risk taking, and this burden will fall largely upon the government if the extent of the guarantee is such that private lenders face little risk exposure.

As the government's financial commitment to a producer increases, there will be a strong incentive to provide any additional support required to keep the firm afloat. Government loan guarantees will, on the other hand, have a very different effect on private investors. Equity holders will have less of an incentive to invest the additional funds needed to restore the firm to profitability, because some or all of the resulting gain will accrue to the government. Indeed, it is possible that the overall increase in the value of the firm as a result of such investment will be less than the decrease in the value of the loan guarantee to equity holders.[39]

The problems that can be encountered where a firm becomes a "chosen instrument" of public policy are illustrated by the experience of *Consolidated Computer*. The firm was incorporated in 1967 by a private entrepreneur, to develop and market his innovation in computer technology. Public support for the corporation initially took the form of a loan guarantee of up to $12 million (subject to certain conditions), under the government's General Adjustment Assistance Program (GAAP). The firm's success and rapid growth during its initial years soon gave way to financial problems. After falling into interim receivership, the firm was reorganized in 1972, with the General Adjustment Assistance Board (GAAB) receiving 37.1 per cent of the common shares in the newly named Consolidated Computer Incorporated (CCI). Things continued to go badly, however, and further annual losses were incurred, despite the provision of additional public support. The GAAB proposed that government support be terminated in 1975, but Cabinet opted instead for a financial restructuring that would avoid the $35-million loss to the federal treasury and keep alive the country's only Canadian-owned computer hardware manufacturer.

Consolidated Computer Incorporated experienced increasing difficulties over the latter half of the 1970s because of a number of factors, including poor management controls and its weakening competitive position.[40] The corporation's dependence on government loan guarantees increased, but monitoring by the CCI's board of directors, by the GAAB — later renamed the Enterprise Development Board (EDB) — and by the two responsible government departments had serious inadequacies. Because responsibilities for overseeing CCI were shared, no one body was effectively accountable for this function.[41] Moreover, a review of the evidence has suggested to one investigator that "for much of the period, the closest monitors of the CCI investment were its advocates. Therefore the hard questions that might have brought an earlier termination of this project were not raised."[42]

The corporation was finally sold in 1981. The divestiture required a payment of $91 million to cover loan guarantees, bringing the government's total loss to close to $120 million. Two-and-a-half years after acquiring it, CCI's purchaser placed the firm in receivership, in 1984.

When the government becomes committed to supporting a particular project or enterprise, there are clearly major risks involved. Those risks exist whether the "chosen instrument" is a private firm, a mixed enterprise, or a wholly owned public corporation. There is no reason to expect, for example, that de Havilland would have achieved a higher level of performance as a private firm subject to substantial and ongoing government support. Ownership is less important in these cases than the nature and extent of public support.

This is of particular relevance to the current policy debate. While a number of "entrepreneurial" public corporations have been privatized, or are in the proc-

ess of being privatized, it is not clear that public-policy objectives have changed. If governments were simply to turn their support to certain private firms or technologies, the same problems could arise. There is, again, the possibility that the government will pick "losers" rather than "winners" and that it will become involved in shielding those firms from the impact of market forces. The results may be no less problematic.

Summary

The experience of government as an entrepreneur offers a number of lessons. First, it reinforces the need for a careful evaluation of government objectives. The performance of public firms raises some basic questions about the significance of market gaps and whether the benefits exceed the costs of trying to fill them. The discussion also highlights the potentially high costs associated with the pursuit of certain noneconomic objectives. The chapter supports the concerns that many have expressed about the difficulties governments experience in picking winners, on the one hand, and extricating themselves from losers, on the other. These problems do not pertain solely to the use of public corporations. They are also applicable to what has been referred to as "hidden Crowns" — private firms so heavily dependent on government support that they are considered to be lying on the fringe of the public sector.

Second, it is important to determine whether objectives have been defined appropriately. Where objectives are defined very narrowly so that they pertain to a particular firm or a specific technology, there is a significant possibility of contracting problems; and these, in turn, are likely to increase the cost, and jeopardize the effectiveness, of government intervention. Public-policy goals may be reasonably compatible with an alternative specification of objectives that provides the government with a wider range of policy options.

In those situations where arrangements with a private firm would result in major contracting problems, it will often be preferable to resort to public enterprise. Such problems may arise where, for example, the government is purchasing technologically advanced products for its own needs.

Finally, where government enterprise is adopted, it is important to think carefully about how to reduce the problems associated with the use of this instrument — problems that are particularly acute in dynamic and evolving industries. We shall return to this general issue in Chapters 8 and 9.

Bail-Outs

A significant number of public corporations have their origin in government initiatives to prevent the closure of a private firm (see Table 6-1). While the main purpose of a "bail-out" is to maintain jobs, there may be additional considerations. In the case of Canadair, for example, the maintenance of employment coincided with the promotion of Canadian technological capabilities, as noted earlier.

Bankruptcy is, of course, a normal part of the process of adjustment and change in a dynamic economy. There can be benefits from slowing down the process of adjustment where there are rigidities that make the costs of adjustment especially high. But where government intervention impedes the normal process by which resources are shifted from lower- to higher-value uses, it can entail a substantial cost. The cost of bail-outs may involve more than just the resource misallocation associated with maintaining certain weak competitors. The expectation of government intervention may influence the action of others in the same industry or region, with the result that the general redeployment of labour and capital occurs more slowly than it would if guided solely by the dictates of market forces. Moreover, since resources can generally be otherwise employed, a bail-out may save some jobs while preventing other, perhaps more enduring, jobs from being created elsewhere in the economy. The major impact may well be on other firms in the same industry who would expand output and employment if their competitor was not sustained by government assistance.[43]

An important focus of government should be on policies that are likely to ease the process of adjustment and reduce the requirement for bail-outs. These include programs to help workers change occupations and move to different localities. They extend as well to reforms to bankruptcy law, and securities and tax legislation, which may improve the possibility for corporate reorganization, mergers, and takeovers.[44] In subsidizing employment in slow-growth areas, emphasis can be placed on modest-sized and less-visible projects that pose less risk of the government becoming committed to ongoing subsidization in the event of a failure.

Notwithstanding these policies, there will always be certain instances where the costs of closure are judged to be unacceptable. It could well be that because of the depressed state of the labour market, employment maintenance involves lower social costs than the alternative, but this will not always be the case. Nor will it always be possible to limit assistance to that period in which social benefits exceed social costs. It is in this context that government ownership must be assessed against the alternative instruments that are available to save a firm from the prospect of bankruptcy.

Table 6-1

Important Bail-Outs,[1] Canada, 1950-83

	Bail-out year	Recovery factor[2]	Current status
		(Per cent)	
Canada			
Canadair Ltd.	1976	0.7	Sold to Bombardier Inc.
Cape Breton Development Corp.	1967	0.7	Operating
de Havilland Aircraft Company of Canada	1974	-	Sold to Boeing Canada Ltd.
Fishery Products International Ltd.[3]	1983	. .	Operating
Newfoundland			
Atlantic Gypsum Ltd.	1952	-	Sold to Lundrigans Ltd.
Labrador Linerboard Ltd.	1972	-	Sold to Abitibi-Price
Marystown Shipyard Limited	1967	1.0	Operating
Newfoundland Fibreply Ltd.	1959	-	Ceased operations in 1981-82
Newfoundland Hardwoods Ltd.	1950	1.0	Operating
North Star Cement Corp. Ltd.	1951	-	Sold to Newfoundland Cement Co.
United Cotton Mills Ltd.	1951	-	Sold to Newfoundland Textiles Ltd.
Fishery Products International Ltd.[3]	1983	. .	Operating
Prince Edward Island			
Georgetown Shipyard Inc.	1973	1.0	Operating
Nova Scotia			
Clairtone Sound Corp.	1967	-	Wound up in 1973
Sydney Steel Corp.	1967	0.6	Operating
New Brunswick			
Brunswick Mills Ltd.	1976	-	Sold to Consolidated Bathurst
Manitoba			
Flyer Industries Ltd.	1971	-	Sold to CarroserieFabrick den Oudsten NV.
Manitoba Forestry Resources Ltd.	1973	0.9	Operating
Saunders Aircraft Ltd.	. .	-	Wound up in 1976
Venture Manitoba Tours Ltd.	1971	1.0	Operating
British Columbia			
Canadian Cellulose Co. Ltd.[4]	1973	-	Shares transferred to BCRIC
Kootenay Forest Products Ltd.	1974	-	Shares transferred to BCRIC
Ocean Falls Corp.	1973	-	Wound up in 1983
Plateau Mills Ltd.	1975	-	Shares transferred to BCRIC

1 All companies are wholly owned by government unless otherwise indicated.
2 Proportion of expenditures recovered by (autonomous) revenues. The factor shown is the 1980-83 average.
3 Majority ownership of Fishery Products International Ltd. is held by the federal and Newfoundland governments (62.6 and 26.2 per cent, respectively), through their participation in 125459 Canada Ltd. (see Table 6-3).
4 The government of British Columbia initially held 81 per cent of Canadian Cellulose Co. Ltd.
SOURCE Robert W. Sexty, *Public Enterprise and Employment in Canada*, Task Force on Labour Market Development, Technical Study 33 (Ottawa: Supply and Services Canada, 1981), updated from Public Accounts and Annual Reports, and through consultations.

Government bail-outs in Canada have occurred as a response to particular situations rather than as part of a more general strategy. This is entirely appropriate, since a formal process involving specific criteria increases the danger that the prospect of a bail-out will itself become an important influence in the decisions of market participants.[45] It is also appropriate for government ownership to have been largely a bail-out instrument of last resort. As we have already seen, there are certain significant risks associated with the substitution

of public-sector for market-monitoring arrangements. There is also the danger that policy makers will become more closely associated with an enterprise when it is publicly owned, thus making it more difficult to withdraw support at a later stage and allow the required adjustments to take place. These factors, along with the burden associated with a further increase in the size, and possibly the scope, of the public sector, would tend to make public ownership undesirable except in those cases where there are very substantial costs associated with the use of other instruments.

Alternative instruments also have their deficiencies, although the nature of the resulting problems will depend largely on the extent of the required public support. Cash subsidies, for example, provide an opportunity for immediate gain, and the firm may have little incentive to persevere and fulfil any employment commitments. While the problem would be remedied by deferring a portion of the subsidy, the opportunity to postpone payments is limited where a firm faces the prospect of immediate bankruptcy.

Loan guarantees have been one of the most popular forms of financial assistance to failing enterprises. Loan guarantees, along with concessional loans, may cause firms to introduce higher debt loads into their capital structure, thereby increasing their vulnerability to rising interest rates and declining market conditions. As we noted earlier, the guarantee may encourage greater risk taking by the firm, and it may discourage new equity infusions for investments that could increase the value of the firm but reduce the value of the guarantee. These problems would be reduced where the guarantee covered only a portion of the firm's debt, so that private lenders would still incur significant risk. The incentives for increased risk taking are also reduced where the government obtains warrants on a firm's shares and is thereby in a position to share in gains as well as losses. In the last budget the federal government did, in fact, introduce a number of guidelines to provide tighter control over the use of loan guarantees.[46]

Government enterprise will become a more attractive option as the monitoring and enforcement costs associated with providing assistance to private firms increase and as the inherent difficulties in monitoring public production decrease. The latter problems can be substantial, as we have seen in the case of "entrepreneurial industries." The costs of monitoring and enforcing arrangements with private firms will depend on: the extent of the divergence of interest between the government and the owners of the firms; the remaining incentive of others, including owners and also private lenders, to monitor the performance of the firms; and the extent of the pressure on the government to provide continuing support to an enterprise. The ability of the government to rely on private owners to monitor the firms and ensure satisfactory performance will decline as the size and importance of public support increases.

Where the government is faced with strong pressure to sustain a given private enterprise, monitoring and enforcement problems will tend to be substantial. Under these circumstances, the government will be in a weak position to negotiate changes in corporate structure or activities. And there will be a need to devote considerable resources to monitoring corporate efficiency. Often, however, it is only apparent after the fact that the government is essentially locked-in to ensuring the survival of a particular entity. There is the danger that as a consequence of public ownership a commitment to maintaining an enterprise could develop where previously it did not exist; rather than lead to a reduction in monitoring and enforcement costs, the main effect of creating a public corporation could thereby be to postpone or prevent a much needed industry restructuring.

If ever there was a situation where it was clear that the government would be faced with continuing pressures to sustain employment, that situation existed in 1967 when the federal government took over the coal mines of Dominion Steel and Coal Corporation (DOSCO). One indicator of the federal government's commitment to the Cape Breton coal industry was the level of subventions, which by 1965 had reached $3,000 per mine employee.[47] Contrary to the recommendations of the Royal Commission on Canada's Economic Prospects in 1957 and of the Royal Commission on Coal in 1960, the federal government had refused to reduce support to the industry and to encourage out-migration from the region.

The *Cape Breton Development Corporation* (DEVCO) was established at a time of severe economic crisis in Cape Breton. The region's "main economic supports were in jeopardy." As a result, "urgent action was called for if Cape Breton was not to develop into a slum."[48] When DOSCO announced its intention to close its collieries, the federal government had no option but to maintain operations that were long believed to be justified on the basis of social considerations. While it may have been possible to attract another private interest, this would have required still higher subsidies. Moreover, arrangements with DOSCO had illustrated the difficulty of ensuring that subsidized private firms will give appropriate attention to longer-term initiatives that will enhance the value of the enterprise.[49]

The Act creating DEVCO instructed the corporation to reduce coal production, while actively fostering an alternative industry on the island. The two were to proceed in tandem so that overall employment would be maintained. In the initial years, coal production and

employment were greatly curtailed (Table 6-2). In 1973, however, as a consequence of the sharp increase in oil prices, coal prices began to rise substantially. In response, coal production was increased, beginning in 1975. Production has continued to expand, although coal prices have declined from their peak. But despite the increase in prices and major gains in labour productivity, the corporation has never been able to eliminate completely its operating losses on mining activities. Meanwhile the corporation's achievement in terms of broadening Cape Breton's economic base has fallen below expectations. It has been estimated that over the 1973-78 period somewhat fewer than 1,000 full-time jobs were created by the Industrial Development Division, most of which were in firms that could not survive without public support.[50]

The losses that DEVCO has incurred are, for the most part, a reflection of the high costs of generating employment in Cape Breton. In addition to its main responsibilities, however, DEVCO has assumed some additional social obligations.[51] For example, it has sold coal to other Nova Scotia government enterprises — Sydney Steel Corporation (SYSCO), and Nova Scotia Power Corporation — below market price; in opening new mines it has been influenced by the desire to keep work close to existing communities; and it has been reluctant to reduce employment in cyclical downturns. It is conceivable that these obligations would not be imposed on a private corporation, which would require explicit instructions and appropriate compensation. But, more generally, there is no reason to believe that public policy with respect to Cape Breton could be more effectively carried out by a private firm subject to ongoing government support. The substantial public subsidies required to attract a major private producer and the government's commitment to sustaining activity in the region would inevitably result in major contracting problems. The appropriate support for coal production depends on market prospects for this commodity and also the viability of other commercial endeavours that are being encouraged, both of which are subject to considerable uncertainty. This would further complicate the negotiation and enforcement of a contractual arrangement with a private coal producer. Under the circumstances, government enterprise was a relatively attractive policy instrument.

Some of these same considerations apply to the takeover of DOSCO's steel works by the Nova Scotia government in 1967 and the establishment of Sydney Steel Corporation. While the steel mill employed less than

Table 6-2

Cape Breton Development Corporation (Coal Division): Statistical Highlights, 1969-85[1]

	Number of miners	Productivity	Production	Coal sales	Net mining losses	Payments from federal government: Capital costs	Payments from federal government: Operating costs[2]
		(Tonnes/man-shift)	(Million tonnes)		($ millions)		
1969	4,554	2.5	2.2	26.2	21.9	13.0	22.0
1970	4,441	2.4	1.8	24.4	25.8	15.5	21.0
1971	4,263	2.6	1.7	16.3	28.8	24.5	28.8
1972	4,083	2.4	1.3	12.0	32.6	9.5	32.6
1973	3,696	2.5	1.1	15.4	31.5	2.0	30.4
1974	3,470	2.6	1.1	18.8	29.1	6.4	28.3
1975	3,752	2.8	1.5	31.5	29.0	22.3	28.9
1976	3,780	4.1	2.0	53.2	14.0	20.8	13.9
1977	3,858	4.2	2.1	64.3	28.3	20.5	26.3
1978	4,158	4.9	2.5	87.9	11.5	14.5	22.0
1979	4,297	4.6	2.4	121.2	12.6	26.1	10.7
1980	4,270	4.2	2.1	115.1	18.2	34.6	–
1981	4,509	4.7	2.7	129.1	10.5	70.0	29.2
1982	4,679	4.7	2.3	112.5	22.3	98.5	25.9
1983	4,573	4.5	2.7	171.8	46.5	71.1	14.1
1984	. .	5.3	2.8	144.3	49.6	16.1	83.3
1985	3,470	7.1	2.4	165.1	10.0	86.9	10.0

1 Year ending closest to March 31.
2 Including mining losses and extraordinary expenditures.
SOURCE Cape Breton Development Corporation, *Annual Reports*.

half as many workers as the coal mines, a closure would nonetheless have imposed a considerable degree of hardship on the local economy. The federal government appreciated this, but it also recognized that if it bailed out the steel works, it would come into direct conflict with other steel producers in eastern Canada. This type of conundrum had not arisen in the case of DOSCO's coal mines.

The competitive position of the Sydney steel complex had declined significantly over time. The public subsidies that would have been required to attract a private producer were, again, substantial. Moreover, experience, here again, illustrated the difficulties in working out a suitable arrangement with a private-sector firm.[52] DOSCO's physical facilities had been allowed to deteriorate badly, despite substantial public support; thus at the time of the takeover a major rehabilitation was required.

If there had been public commitment to continue operating the Sydney steel works, it would have been difficult and costly to pursue that objective through a contractual arrangement with a private firm. The degree of public-sector commitment, however, was much less obvious than in the case of DEVCO. While the federal government was unwilling to take over the operations (although it was willing to provide direct and indirect subsidies), the Nova Scotia government was initially prepared only to assume ownership for an interim period in which it could "assess the long term future of Sydney Works and ... give effect to that assessment."[53] A revival in demand, which coincided with the takeover, helped to generate optimism about the long-term future of a rationalized steel operation. Presumably, the fact that SYSCO had already been created contributed to the decision to maintain public ownership; after its interim initiative it would have been more difficult for the Nova Scotia government to withdraw support and cause a contraction or closure of the operation.

The SYSCO experience also provides further evidence of the difficulty in predicting market prospects. Prior to the takeover, consultants had alerted the government to the substantially higher costs of producing steel in Sydney than anywhere else in Canada.[54] The surge in market demand following the takeover dispelled the resulting concerns and provided the provincial government with the confidence to support a major program of modernization and expansion. By the mid-1970s, however, as the rehabilitation program reached completion, the market for steel had again begun to weaken. Corporate losses increased in subsequent years, and in 1981 the federal and Nova Scotia governments agreed to support a further major revitalization of the SYSCO facilities. As of March 31, 1985, the corporation's accumulated debt had reached $395 million.

A very different approach to salvaging failing enterprises was pursued in the recent bail-out of the Newfoundland fishing industry. The intention in that case was not just to save jobs but to restructure an industry that was very much in need of consolidation. The vehicle for this restructuring was to be *Fishery Products International*, a public corporation assembled in late 1983 out of the wreckage of a number of bankrupt Newfoundland fisheries. Sixty-three per cent of the shares in the new company are held by the federal government, with the remainder owned by the Newfoundland government (26 per cent) and the Bank of Nova Scotia (11 per cent). The 1983 restructuring agreement, which was strongly influenced by the recommendations of the Task Force on Atlantic Fisheries (1982), called for FPI to be run as an "economically viable, efficient, and modernized" company until it could be rendered profitable enough to be sold back to the private sector. To that effect, the agreement requires that if either the federal or Newfoundland government opposed a proposed plant closing or merger, it must compensate the corporation for the resulting increase in costs, as determined by an independent accountant. At the same time, however, a number of constraints on the activities of the corporation were established, in the way, for example, of plants that could not be closed and the need to utilize the Marystown shipyard.[55]

The establishment of a mixed enterprise in this situation provided an opportunity for coordinated action to resolve a problem in which both the federal government and the Newfoundland government have a significant interest.[56] (The federal interest stems from its control over fish harvesting and over international and interprovincial trade in fish products, while Newfoundland's interest relates to its jurisdiction over fishery activities within the province.) The alternative of a loan guarantee would not have responded to the problems of the major companies suffering under extremely heavy debt loads. From the federal perspective, the arrangement had the additional advantage that the risk would be shared with other participants who had a large stake in the survival of the fishing industry.

While FPI has required greater injections of equity than originally expected, it has made some significant initial progress in establishing the basis for a viable commercial operation. The company has divested itself of a number of plants and considerably improved relations with the Fishermen's Union. It is currently benefiting from the recent upsurge in the demand for fish products. But it is too early to come to an overall assessment. Given the Newfoundland government's initial reluctance to accept profit maximization as a goal for the corporation and given the temptation, from the provincial perspective, to use the company to generate eligibility for unemployment insurance,[57] the prospects of FPI as

a commercial undertaking remain subject to considerable uncertainty.

While government enterprise may be the preferred form of intervention in certain situations, it is nonetheless likely to entail substantial economic costs. It is important that governments introduce other policies to increase their options and reduce their dependence over the longer term on what could be an increasingly costly vehicle for maintaining jobs. We referred earlier to adjustment programs in the context of preventing the need for bail-outs. With such programs, governments may also find it more feasible to reduce the operations of the public firms that are created and to limit the extent of the public subsidies that are required. Programs to foster the development of new and more promising commercial activities in the region would maybe serve this same purpose. The establishment of a public enterprise should be accompanied by these and other programs to facilitate the needed adjustments.

Mixed Enterprises

Increasingly in recent years, governments have pursued the objectives of industrial policy through the use of mixed enterprises. A list of some of the more important enterprises in which governments have holdings, either directly or through their subsidiaries, is presented in Table 6-3. While any corporation in which both public and private interests own equity is a mixed enterprise, particular interest has centred on corporations in which the extent of public ownership is sufficient to provide the government with effective control. Given a need for government intervention, the question arises as to when government equity participation through the vehicle of a mixed enterprise is likely to represent the appropriate response. Under what circumstances, if any, is a mixed enterprise preferable to a wholly owned public enterprise or to other instruments of public policy?

Table 6-3

Major Mixed Enterprises[1]

	Public or Mixed Parent[2]	Interest[3]
		(Per cent)
Toronto Terminals Railway Co.	Canadian National Railway Company (CNR)	49
National Sea Products Ltd.	Government of Canada	20[4]
CNCP Telecommunications	CNR	*50[5]
CNCP Niagara-Detroit Partnership	CNR	*50[5]
Chicago and Western Indiana Railroad Co.	CNR	20[5]
Telesat Canada	Government of Canada	*50
	Alberta Government Telephones	5
	CNR	4
	Manitoba Telephone System	2
	Saskatchewan Telecommunications	2
Panarctic Oils Ltd.	Petro-Canada	*53
	Trillium Exploration Corp.	5
Syncrude Canada	Petro-Canada	17
	Government of Alberta	17
	Alberta Energy Co. Ltd.	10
Westcoast Transmission Co. Ltd.	Petro-Canada	*31
Ridley Terminals Inc.	Canada Ports Corp.	*90
Nanisivik Mines Ltd.	Government of Canada	18
Fishery Products International Ltd.	Government of Canada	*63[6]
	Government of Newfoundland	26
Canada Development Corp. (CDC)	Government of Canada	*13[7]
Allen Potash Mine	CDC	40[5]
AES Data Inc.	CDC	*100
Savin Corporation	CDC	*62[5]
CDC Life Sciences Inc.	CDC	*67[5]
Connaught Laboratories Inc.	CDC Life Sciences	*100
Nordic Laboratories Inc.	CDC Life Sciences	35
	Caisse de dépôt et placement du Québec (the Caisse)	15

Table 6-3 (cont'd)

	Public or Mixed Parent[2]	Interest[3]
		(Per cent)
Allelix Inc.	CDC Life Sciences	*50[5]
	the Caisse	15
	Ontario Development Corp.	20
Canterra Energy Ltd.	CDC	*95[5]
Innocan Inc.	CDC	10[5]
Innotech Aviation	Innocan	*67
	Air Canada	30
Onex Capital Corp.	CDC	16[5]
American Can Co. Inc.	Onex	*55[5]
MacLeod Steadman Inc.	Onex	*100[5]
Nachurs Plant Food Co.	Onex	*92[4]
Sky Chefs	Onex	*60[5]
Polysar Ltd.	CDC	*100
Petrosar Ltd.	Polysar	*100[5]
Sentrol Systems Ltd.	CDC	*98
Cooperative Energy Corp.	Government of Canada	*50[8]
Cooperative Energy Development Corp.	Cooperative Energy Corp.	*85[8]
Mines SNA	Government of Quebec	*51
Asbestos Corp. Ltd.	Mines SNA	*55
Sotel Inc.	Société de développement de la Baie James	*51
Gaz Métropolitain	Société québécoise d'initiatives pétrolières (SOQUIP)	20
	the Caisse	*30
Cambior Inc.	Société québécoise d'exploration minière (SOQUEM)	32
Place Desjardins Inc.	Société de développement immobilier	*49
Artopex Canada Ltée	the Caisse	*30
Casavant Frères Ltée	the Caisse	*30
Unigesco Inc.	Casavant Frères Ltée	*58
Campbell Resources Inc.	the Caisse	11
Canron Inc.	the Caisse	20
Domco Industries Ltd.	the Caisse	12
Brascade Holdings Inc.	the Caisse	30
Brascade Resources	Brascade Holdings Inc.	*67
Noranda Inc.	Brascade Resources	*43
Dominion Textile Inc.	the Caisse	*16
Geocrude Energy Inc.	the Caisse	*18
Le groupe Vidéotron	the Caisse	30
Logistec Corp.	the Caisse	14
Norcen Energy Resources Ltd.	the Caisse	11
Power Financial Corp.	the Caisse	15
Provigo Inc.	the Caisse	*28
Québec-Téléphone	the Caisse	14
Sceptre Resources	the Caisse	*27
Société d'investissement Desjardins	the Caisse	14
Trust général du Canada	the Caisse	19
Dofor Inc.	Société générale de financement (SGF)	*91[5]
Domtar Inc.	Dofor Inc.	*30
	the Caisse	15
Donohue Inc.	Dofor Inc.	*56
Marine Industrie Ltée	SGF	*65

Table 6-3 (concl'd)

	Public or Mixed Parent[2]	Interest[3]
		(Per cent)
Cegelec Industrie Inc.	SGF	*50
Petromont, Société en commandite	SGF	*50
Aluminerie de Bécancour	SGF	25[5]
Tembec Inc.	Société de récupération, d'exploitation et de développement forestier du Québec (REXFOR)	19
Culinar Inc.	Société québécoise d'initiatives agro-alimentaires (SOQUIA)	36
Sidbec-Normines Inc.	Sidbec	*50
Suncor Inc.	Ontario Energy Corp.	25
Trillium Exploration Corp.	Ontario Energy Corp. Suncor Inc.	*67 33
Urban Transportation Development Corp. Inc.	Government of Ontario	15
Trout Lake Mine	Manitoba Mineral Resources Ltd.	27[5]
Steel Alberta Ltd.	Alberta Energy Co. Ltd. (AEC)	*50
Ipsco Inc.	Crown Management Board of Saskatchewan (CMB) Steel Alberta Ltd.	*20 *20
Canpotex Ltd.	Potash Corporation of Saskatchewan	*20
Allan Mines	Potash Corporation of Saskatchewan	*60[5]
Saskatchewan Oil and Gas Corp	CMB	*58
Key Lake Mining Corp.	Saskatchewan Mining Development Corp. (SMDC) Eldorado Nuclear Ltd.	*50 17[5]
Cluff Mining	SMDC	20[5]
Cigar Lake Mining Corp.	SMDC	*51[5]
Star Lake Mine	SMDC	*80[5]
Novatel Communications Ltd.	Alberta Government Telephones Commission	*50[5]
Pacific Western Airlines Ltd.	Government of Alberta	*15
Alberta Energy Company Ltd.	Government of Alberta	*37[9]
Chieftain Development Co. Ltd.	AEC	*56
AEC Power Ltd.	AEC	50
Pan Alberta Gas Ltd.	AEC	40[9]
British Columbia Forest Products Ltd.	AEC	18
Coal Valley Project	AEC	25[9]
Ethane Gathering System	AEC	33[9]
Nitrogen Fertilizer Project	AEC	25[9]

1 The enterprises listed include corporations as well as joint ventures or partnerships. Each enterprise has both public and private parents or is itself the wholly or partially owned subsidiary of a mixed enterprise. The list includes only "major" enterprises, defined *inter alia* by size, public visibility, and extent of government involvement. In the last respect, no enterprise is listed that does not have at least 10 per cent ownership by a public or mixed parent.

2 Private parents are not listed. In some cases, parents hold their interests through intermediate subsidiaries that are not listed.

3 Where the two differ, "interest" refers to control rather than participation in profit. Except as noted, "interest" is taken from Statistics Canada, *Intercorporate Ownership, 1984*, Cat. 61-517 (Ottawa: Minister of Supply and Services Canada, 1985). An asterisk (*) beside a figure indicates that no other single interest has been identified that is greater.

4 *Financial Post Survey of Industrials, 1986* (Toronto: Financial Post Information Service, 1986).

5 *Annual Report* of parent company, 1985.

6 Department of Regional Industrial Expansion.

7 Information received from parent. Interest as of October 1986.

8 Cooperative Energy Development Corporation, *Annual Report*, 1985.

9 Alberta Energy Company Ltd., *Annual Report*, 1985.

Advocates of mixed corporations often suggest that they are better able to serve the needs of public policy, while meeting the performance criteria dictated by the market. That is, with some degree of control, the government retains a vehicle for pursuing social goals like development, while the presence of private investors ensures that the enterprise will be operated with a view to their interests, which is to say, efficiently and profitably.

With majority government ownership, or even a substantial minority, efficiency in mixed enterprise will continue to depend largely on the ability of the political and bureaucratic processes of government to exercise an ownership role. For example, one important force for efficiency in the private sector is the market for control of corporations; poorly run corporations may see control transferred to new owners and management replaced in friendly or hostile takeovers. This is not possible for either public or mixed corporations, at least where the government interest is substantial.

There is not a great deal of empirical evidence concerning the relative efficiency of mixed enterprises and private corporations. Within Canada, private corporations have tended to be more profitable, although the difference may at least partly reflect the additional social goals of public corporations rather than simple inefficiency.[58] Evidence from other countries similarly suggests that mixed enterprises have not earned a rate of return commensurate with their higher systematic risk.[59]

Compared with public corporations, mixed enterprises have both advantages and disadvantages. The government's obligations to minority shareholders will limit the type of public-sector control mechanisms that can be imposed on mixed enterprises. On the other hand, if the presence of private capital results in a market for the equity of a mixed corporation, as has occurred in the case of CDC, it does seem that the performance of management will be more visible to both public and private interests. There is, therefore, the prospect of lower-cost and more-effective monitoring of mixed enterprises.

Another possible advantage of mixed enterprise derives from the discipline imposed by the need to take account of private shareholders. A number of the problems described in this chapter can be attributed to the imprecise mandates of public corporations, which have led to opportunism by both politicians and corporate managers. Had the CDC been wholly public, for instance, one might have expected that it would have become involved in industrial bail-outs at government direction, despite its original mandate.[60] The presence of minority shareholders prevented this from occurring.

It is therefore possible to conceive of situations where the performance of mixed enterprises would tend to be superior to that of wholly owned public corporations. At the same time, the market inefficiencies that can be attributed to the special relationship between policy makers and public corporations may also arise in the case of mixed enterprise. Here as well, there may be a strong temptation to introduce special measures of support and protection to shield inefficient producers and to maintain ventures well after they have proven to be unviable. One might expect these risks to be greatest where the government has majority ownership and the entity is thus more likely to be perceived as a component of the public sector. Problems are also more likely where equity is not traded and there is not this visible barometer of corporate performance.

What can we say about the ability of mixed enterprises to achieve social goals? Their effectiveness in this regard is likely to be problematic compared with that of public enterprise in many situations. When a mixed corporation is first established, its mandate represents an implicit contract between private and public capital — one within the context of a single corporation rather than between distinct public and private entities. To the extent that this contract cannot be clearly drawn, problems are likely to arise, first, in enticing private capital into such a relationship and, second, where social objectives exist, in subsequent disagreements between public and private shareholders over corporate decisions. Such disagreement can be harmful, both politically and to the corporation itself. Both CDC and the Quebec corporation, the *Société générale de financement*, have had problems of this sort, with quite different outcomes. The latter is now a wholly owned public enterprise, though it does itself invest in mixed enterprises, but it was founded as a mixed corporation, with both public and private capital. As a result of the losses that SGF incurred, it became necessary for the government of Quebec to purchase the equity of the private shareholders if the corporation was to continue as a vehicle for provincial development. In the case of CDC, there was disagreement between the federal government and the corporation, supported by its private shareholders, about any social mandate that it might have. This ultimately contributed to the decision by the government to sell its entire interest in CDC.[61]

Thus mixed enterprise is only appropriate in situations where there is no social mandate or where the mandate is such that it is clear and well specified and permits the corporation to operate on a relatively autonomous, profit-maximizing basis.

The case for public equity tends to be strongest, however, precisely in those situations where transactions are complicated by the difficulty in initially specifying,

or renegotiating, contracts. In other words, the clarity and stability of public policy that is required for mixed enterprise will not be present in most situations calling for public-equity involvement. Thus there will be relatively few, if any, occasions when mixed enterprise is desirable.

In the case of bail-outs, governments will have difficulty attracting private participants (other than those who may already have a substantial stake in the corporation) unless they provide sufficient support to transform the corporation into a reasonable commercial prospect. If a mixed enterprise were to be formed, the nature and degree of government support would become an important element of the implicit contract between the government and the private shareholders. On most occasions it will be very difficult to define such a contract with sufficient precision to avoid costly future disputes. Unforeseen events will almost always arise, and, in most cases, these will bring into question the government's obligation to minority shareholders.

One area in which mixed enterprises could play a role is in responding to shortages of equity capital. These may result from certain deficiencies within the capital market or from problems related to risk spreading on risk pooling. As we noted earlier in the chapter, public support is only likely to be justified in certain extreme situations where the private market is experiencing problems. This includes the formation of consortia for certain large-scale projects and the provision of equity for small firms (where it is impossible to introduce reforms to reduce the transactions costs that these market participants face in issuing equity more generally). What is significant in these situations is that the requirement for government intervention extends solely to the provision of equity; these entities can be operated as commercially oriented corporations, and the problems associated with the existence of a social mandate need not arise.

For the benefits of government intervention to outweigh its costs, however, it is important to reduce the danger that public involvement will contribute to a serious misallocation of resources. There is a need, in particular, to reduce the possibility that governments will become committed to firms or projects that are not commercially viable. These risks can be reduced by limiting the degree of government participation. Where government is supporting risk taking, it should, in our view, be a minority participant and preferably a noncontrolling shareholder. Moreover, the government should establish a limit on the support it is willing to provide to the project and make this explicit in its agreement with private shareholders. If and when the risk of the venture declines, thereby eliminating the requirement for public intervention, the government should sell its holdings.

Government Share Purchases

Mixed enterprises are formed in a variety of ways. The notion of a contract between public and private capital is most relevant when mixed enterprises are created as such: that is, if a corporation involves both public and private capital when initiated; if the private sector is invited to share ownership of previously public assets; or if the owners of private assets solicit participation by government. But mixed enterprise can also result simply from governments purchasing the traded shares of private corporations on stock markets. Share purchases by governments are most commonly made through investment funds, the two largest of which are the Alberta Heritage Savings Trust Fund (AHSTF) and the Caisse de dépôt et placement du Québec; in 1984 these managed assets of around $15 billion and $25 billion, respectively. When equity is obtained in this manner and then used by government for control, in order to achieve social goals, it raises further concerns about mixed enterprise.

Of the two funds, the AHSTF does not raise substantive questions of this sort. Almost all of its assets are in the form of public securities or capital projects. Its holdings of private stock are limited to some $200 million, held only for portfolio purposes, and consequently highly diversified. The Commercial Investment Division invests simply to obtain a satisfactory return on its holdings. No holdings may exceed 5 per cent of a firm's issued capital, and no investment in any firm may exceed 10 per cent of the division's portfolio. In general, the fund does not exercise its voting rights in these firms.

The investment practices of the Caisse are quite different. Like the AHSTF, the Caisse has a fiduciary objective — the maximization of risk-adjusted income from the funds that it administers. But it is also required to foster the economic development of Quebec. Partly as a consequence, the size and nature of the Caisse's holdings of stock differ from those of AHSTF (see Table 6-4). Its substantial equity investment is relatively concentrated, with some 65 per cent invested in 25 companies. The Caisse's charter limits it to no more than 30 per cent of the equity of any one company. This, however, can be sufficient to give it effective control. In other instances, the Caisse exercises control jointly with public— or private-sector partners. An example of such a condominium is the control over Domtar — a major producer of forest products — held by the Caisse and SGF together.[62] The Caisse has taken an active stance in managing equity and is represented on the boards of directors, and committees of the boards, of various companies in which it has substantial holdings.

The Caisse's activist management of equity has engendered a variety of controversies, both in Quebec and

Table 6-4

Distribution of Investments, Caisse de dépôt et placement du Québec, 1976-85

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
					(Per cent)					
Long-term fixed-income securities:										
Bonds										
Government of Quebec[1]	47.3	47.5	47.4	50.1	53.4	52.9	52.5	51.9	47.2	43.2
Other Quebec public	12.3	12.5	10.4	9.2	8.5	8.2	7.5	7.0	7.2	7.1
Other government	1.6	2.0	2.9	4.4	5.4	3.3	2.6	5.5	10.0	10.0
Corporate	10.2	9.4	8.7	9.9	8.4	6.5	4.7	2.9	1.9	1.7
Subtotal	71.4	71.4	69.4	73.6	75.7	70.9	67.3	67.3	66.3	62.0
Mortgages	7.1	7.9	8.3	8.9	8.3	8.1	6.8	6.6	6.0	5.7
Total	78.5	79.3	77.7	82.5	84.0	79.0	74.1	73.9	72.3	67.7
Long-term variable-income securities:										
Shares and convertible securities	15.8	13.4	11.8	11.6	13.0	17.0	17.3	19.9	23.1	22.8
Real estate	0.5	0.4	0.3	0.3	0.3	0.4	1.2	1.5	1.4	1.4
Total	16.3	13.8	12.1	11.9	13.3	17.4	18.5	21.4	24.5	24.2
Total long-term investments	94.8	93.1	89.8	94.4	97.3	96.4	92.6	95.3	96.8	91.9
Deposits and short-term investments	5.2	6.9	10.2	5.6	2.7	3.6	7.4	4.7	3.2	8.1
Total investments	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
					($ millions)					
Book value of total investments	5,223.9	6,228.0	7,825.5	9,554.8	11,507.6	13,639.3	15,904.4	17,851.3	19,745.2	22,067.8

1 Includes bonds guaranteed by the Government of Quebec.

Source: Caisse de dépôt et placement du Québec, financial statements and financial statistics, 1985.

elsewhere. Among these, questions have been raised about the consistency of the Caisse's development function, with its fiduciary responsibility to maximize income, and about the impact on Canadian capital markets and economic policy if the Caisse administers the corporations that it controls to facilitate economic development in Quebec rather than for profit, narrowly defined.[63] We do not intend to assess broadly the Caisse or its role in fostering economic development. Rather, the following comments focus only on the link between this role and mixed ownership per se.

If the Caisse is able to direct companies that it controls but does not wholly own to undertake activities for development that do not maximize profit, the profit of private shareholders is reduced as well. Indeed, this fact can make the use of mixed enterprise relatively attractive to governments if other shareholders are unable to resist such control. Much of the cost associated with meeting social roles is then borne by private shareholders. But this practice is likely to have a negative impact on capital markets generally. To the extent that private shareholders are subject to the threat of lost income because of government takeovers, the return required on capital rises generally, and investment falls as a consequence. Any failure by the Caisse to observe rules regarding follow-up offers to minority shareholders would strengthen this effect. There is some evidence that the private sector does perceive Caisse activities in this manner.[64]

In view of these implications, we suggest that the Quebec government give serious consideration to restricting the Caisse to 10 per cent of the equity in any publicly traded company and to pursuing economic development through instruments other than mixed enterprise. Such a policy would avoid the controversies noted above, as well as the criticism that the Caisse invites by pursuing public-policy objectives that are not subject to legislative review and scrutiny. On the basis of research undertaken for the Council, it does not appear that the proposed constraint would reduce the earnings of the Caisse and represent a substantive restriction in terms of its fiduciary role.[65]

Caisse de dépôt et placement du Québec

The Caisse was established in 1965 in conjunction with the new Quebec Pension Plan, primarily to administer the accumulated net contributions to the plan. Ultimately, it was also given responsibility for managing the assets of a variety of other public pension and insurance plans. (The largest of these depositors include the Office de la construction du Québec, the Commission administrative des régimes de retraite et d'assurance, the Commission de la santé et de la sécurité du travail, and the Régie de l'assurance-automobile du Québec.) It remains true, however, that some 50 per cent of the assets, which totalled $25 billion in 1985, are due to the Quebec Pension Plan. Any forecast of asset growth can only be very tentative and reflect numerous assumptions about economic growth, demography, and the funding of pensions. One projection, made in 1983, foresaw Caisse assets in the year 2016 being between 67 and 145 billion dollars, measured in 1983 dollars.[1]

The Caisse's investments are largely in bonds, which represent 62 per cent of the total by book value (Table 6-4). Of these, the preponderance is in debt, guaranteed or direct, of the province of Quebec. Shares and convertible securities are the second largest investment area, by far, representing 22 per cent of assets by book value, and 27 per cent, by market value.

The Caisse has several objectives, more or less consistent. The major two consist of maximizing the return, subject to risk, on the funds that it manages, as well as supporting the economic development of Quebec. In addition, it has sought to foster the development of financial markets and trading in Montreal, and to broaden the market for Quebec bonds. Its investments are structured accordingly. In particular, the weight given to provincial bonds reflects both the economic development objective and the Caisse's role in strengthening markets for provincial debt.

1 See Yves Guérard, "Évolution et perspectives futures," in *La Caisse de dépôt et placement du Québec*, ed. Claude E. Forget (Montreal: C. D. Howe Institute, 1984), p. 551.

Conclusion

The performance of public corporations that have served as instruments of industrial policy has, on the whole, tended to be disappointing. There is a need, in particular, to question the role of government as "entrepreneur." It is more than coincidental that many of the corporations discussed in this section have been among the first to be put forward for privatization. While commercial losses may be understandable where a public corporation has important social objectives, they are much more difficult to justify in the case of enterprises that are intended to contribute to the productivity and competitiveness of Canadian industry. In some cases (i.e. the promotion of Canadian high technology), the nature of public-policy objectives should be critically examined. In other cases (the promotion of R&D, for example), there are other instruments more suited to the pursuit of the particular objective. The use of government enterprise, however, cannot be excluded. Where governments are committed to an objective that would entail substantial contracting problems if a private firm were employed, government production may well be the preferable alternative.

Government salvage activities may have significant adverse implications for efficiency, regardless of the instrument employed; therefore, attention should be given to measures that are likely to reduce the requirement for this type of intervention. Given the need for bail-outs, however, government enterprise is most appropriately viewed as an alternative of last resort. It is likely to be preferable only in circumstances where the extent of public support, along with the government's commitment to providing support, is such as to lead to major problems of contract negotiation and enforcement with a private firm.

Mixed enterprises may achieve better performance than wholly owned public firms because the trading of a portion of their equity facilitates monitoring. But when governments establish mixed enterprises, they implicitly make certain commitments to private shareholders; these greatly limit the flexibility and usefulness of those enterprises as instruments of public policy. Government intervention to address the problems sometimes encountered in assembling risk capital is one of the few public-policy objectives that may be amenable to the use of mixed enterprises. The use of mixed enterprises for policy purposes raises particular concerns where these entities are not created but, instead, formed through public acquisition of the controlling shares in an existing private corporation. There are potentially serious implications for capital markets in such cases that must be considered.

7 Government Enterprise in the Nonrenewable Resource Sector

The nonrenewable resource sector has recently become a particularly important area of government-enterprise activity. The growth in government resource corporations has been part of a more general change in the nature and degree of state intervention in this sector.

Prior to the 1970s, government policy was aimed mainly at encouraging the exploitation and development of resources. Provincial governments, which had primary legislative authority as a result of section 109 and parts of section 92 of the *Constitution Act, 1867*, sought to create a highly favourable environment for privately owned resource companies. The development objectives of the provinces were seen to depend heavily on the technology, expertise, and capital of the largely foreign-owned corporations operating in their territory. As a consequence, private firms benefited from the publicly provided infrastructure and services, low tax rates, and various subsidies and other concessions.[1]

In the 1970s, governments began to adopt a very different perspective towards the management of their nonrenewable resources. With the large increase in resource prices in the early 1970s came concern over the "windfall profits" of the resource companies, much of which was flowing out of the country to the firms' foreign owners. The recognition that minerals were exhaustible and that governments thereby had an obligation to future generations strengthened support for policies to increase the government share of resource wealth. This period was also marked by substantial conflict between the provinces and the federal government. By declaring, in its 1974 budget, that provincial royalties and taxes would no longer be deductible from federal income tax, the federal government threatened provincial efforts to extract higher resource revenues. Disputes over oil and gas rents in Alberta in the 1970s pitted private producers against the government of Alberta, the federal government against the province, and private producers against the federal government.

While the rationales underlying the use of public resource corporations are many and complex, in general at least one of the following three major objectives has figured prominently in decisions to create a government enterprise: to capture an increased share of economic rent; to ensure adequate energy supplies; and to promote economic development. In this chapter we shall examine a number of corporations that have been founded to meet one or more of those objectives:

- To collect economic rent: Potash Corporation of Saskatchewan (PCS); and British Columbia Petroleum Corporation (BCPC).
- To enhance security of supply: Petro-Canada.
- To promote development: Société québécoise d'exploration minière (SOQUEM); and Société nationale de l'amiante (SNA).

While the experience of each corporation reflects a particular set of economic and political circumstances, each helps to shed some additional light on the problems and prospects of government enterprise in the nonrenewable sector.

Collecting Economic Rent

The two inherent features of energy and mineral resources are that they are limited in supply and that deposits vary in quality. If the value of production from the highest-cost source exploited (that is, the marginal source) equals the owner's costs for labour and materials plus a normal return to capital in use, then lower-cost sources will generate revenues in excess of the costs and the normal return. This surplus is called "economic rent."

During the 1970s, governments in resource-producing countries around the world interpreted the rise in commodity prices as a signal that many natural resources had become scarce, thereby creating the potential for large economic rents of a long-term nature.[2] In a recent report, the Council estimated resource rents in Canada for the year 1980 to have been in the order of $29 billion — approximately 10 per cent of Canadian GNP that year, or more than $1,200 per capita.[3] Of this total, the amount collected as provincial resource revenues made up almost 2.5 per cent of GNP.

The possibility that there is a role for government enterprise in this area arises in part from the limitation of other available instruments of rent collection. The latter can usefully be divided into *ex post* and *ex ante* measures.

The most common instruments used to capture *ex post* rents (*ex post* in the sense that rents are transferred as they are actually realized as surpluses in the private sector) are taxes and royalties. Among the taxes that have been used to capture economic rents are those on units sold or value of output (such as the petroleum and gas revenue tax), export taxes, profit taxes, and property taxes. The prevalent form of royalty is a fixed levy on each unit of output.

The basic problem with all *ex post* systems is their inability to isolate rents from the returns attributable to other factors of production. This will inevitably lead to some distortion in the allocation of resources.[4] Profit taxes, for example, cannot successfully distinguish between the normal return to capital in use (which is difficult to define) and resource rent. This same problem applies to rate-of-return taxation, in which a firm earns what is claimed to be a normal rate of return on capital before taxation is applied to the residual income. Here, as well, there is a danger that the system will impinge on entrepreneurial rent and undermine the incentives for creating wealth.

A fixed levy per unit of output, which constitutes a gross royalty, can distort allocation by making it unprofitable to exploit deposits that, in the absence of the royalty, would have been profitable to exploit. If the royalty exceeds the potential rent from a deposit of a given quality, the producer will have no incentive to exploit that deposit. For example, in mining, a royalty induces the producer to raise the cut-off grade — the grade that is on the margin between mineable (at a profit) ore and waste rock — and to reduce the total quantity of resource extracted.[5] Empirical evidence supports the importance of this effect in mining.[6]

Ex ante alternatives attempt to capture rent before it is actually earned. Examples include auctioning resource lands or negotiating leases. If all geological information were available to all bidders in a competitive bidding process, the highest bonus bid might indeed reflect the expected full current value of the resources, net of expected future rentals, royalties, and recovery payments.[7] The amount of rent collected by this method depends upon the strength of competition in the bidding process and the accuracy of appraisals undertaken by resource owners. This instrument will not be successful in gaining rents for the government if the industry is highly concentrated.[8] Moreover, this method captures only expected rent, not realized rent; while the two may be expected to merge over time, the inability of the government to share in unexpected windfalls may be a source of concern and political pressure during a particular period.

Government enterprise has an advantage in that it avoids these types of problems. In particular, since returns from rent, profit, and entrepreneurship all flow to the government, an inability to distinguish between them need not affect development of the resource. Any disadvantages that attach to government enterprise generally (as noted in Chapter 3) will, however, continue to hold.

There are also some particular problems associated with the use of public corporations to capture rent. If the public corporation is created by expropriating a private firm, any disputes with the firm's previous owners could lead to severe early losses; the takeover process could, in other words, lead to a significant loss of rents. If a government enterprise is established by purchasing another firm, the prospective rents will often be capitalized in the purchase price; thus the objective of increasing the government's share of rents may not be achieved.[9] If the government enterprise is started from scratch, there may be a long gestation period before profits are observed. Furthermore, public firms involved in developing newer and less-productive deposits cannot be easily and directly compared with private firms in the industry; such problems of performance assessment will complicate the task of controlling public firms involved in new resource ventures, leading to the possibility that rents will be dissipated through waste and inefficiency.

A public enterprise may be established not because other instruments are inadequate but simply because they are unavailable. For instance, there may be legal limitations on a government's ability to apply taxation or alternative forms of rent capture. Also, government enterprise may be attractive because the government wants to do more than collect its given share of existing rents. In some circumstances, public ownership may provide the government with an opportunity to influence overall industry output and thereby increase the total rents available. A number of these issues are relevant to the experience of the Potash Corporation of Saskatchewan.

The Potash Corporation of Saskatchewan

As we noted in Chapter 2, the nationalization of private potash operations in Saskatchewan was prompted by problems that the provincial government had encountered in attempting to use alternative instruments of rent collection. One study described the situation as follows:

> A long and acrimonious battle with the industry, which included industry challenges to provincial legislation, nonpayment of resource tax fees, refusal to submit financial statements, and postponed expansions of mine capacity

> despite rising demand for potash, led to the take-over decision.... The government was now determined both to influence the pace of resource development and to increase its share of the economic rents.[10]

The dispute between the government and the province's potash producers was inflamed by an attempt on the part of the federal government to raise corporate taxes by disallowing the deductibility of provincial royalties. An important consideration in the solution that was ultimately reached was the fact that a provincial government enterprise would be exempt from corporate taxation.

The Potash Corporation acquired about 40 per cent of the province's potash mining capacity. This represented an important structural change in the potash industry in Saskatchewan. But was PCS able to contribute to Saskatchewan's rent-capture goals? The answer to that question depends on the return that the government was able to derive from its investment in PCS and also on how, if at all, public ownership affected the government's royalty and tax yield from the remaining private-sector producers.

A study done for the Council suggests that PCS has made a significant contribution to government objectives in terms of revenue collection.[11] Table 7-1 presents a crude estimate of the "rents" from PCS, where rents are defined to include both provincial tax revenue and net income. Based on a comparison of profit margins, the performance of PCS compares favourably with that of private firms in the industry. The return on the government's investment in the five PCS mines was found to be quite satisfactory. Table 7-2 shows that even excluding the revenue received from provincial taxes (the net income calculation), returns were very attractive for the period 1979-81. The situation changed in 1982 and 1983 as a result of the downturn in the potash market. Nevertheless, over the entire period the residents of Saskatchewan received quite a reasonable return from their investment.

There is no evidence that PCS coordinated industry output so as to achieve a reduction in output and higher resource rents. Nor is it clear that a partial cartel of Saskatchewan producers could exercise sufficient market power to be effective. The government's tax and royalty yield from private producers was, however, influenced by the existence of PCS. Public ownership provided the government with a "window on the industry" and a direct means of obtaining the information on profits and costs that private firms had withheld when the government was attempting to implement its potash reserve tax. The resulting improvement in the government's bargaining position was no doubt a factor in the resolution of the government's tax dispute with the industry. The existence of PCS not only provided the government with the information it needed to challenge the private firms, but it also reduced the significance of threats by private producers to alter their plans for expansion in Saskatchewan. Perhaps as important, the government's revenue expectations changed, as PCS helped ministers come to an improved understanding of the industry's financial situation and cost structure.[12] By early 1980, a five-year agreement — the Potash Resource Payment Agreement — was signed with all firms in the industry.

General Considerations

The evidence from PCS does not contradict the idea that the government can be a successful entrepreneur in nonrenewable resource industries. Still, it cannot be concluded that government enterprise is necessarily the best solution to the problems of rent capture. The Potash Corporation has been run to maximize profits

Table 7-1

Rent from the Potash Corporation of Saskatchewan, 1977-84

	1977	1978	1979	1980	1981	1982	1983	1984
				($ thousands)				
Tax revenue from PCS	16,280	35,100	58,280	89,540	70,770	15,020	12,610	17,692
Net income	1,120	24,720	77,964	167,449	141,721	607	– 18,007	25,349
Total (nominal rent)	17,400	59,820	136,244	256,989	212,491	15,627	– 5,397	43,041
Rent in constant dollars[1]	17,400	54,780	108,995	181,233	135,951	9,431	– 3,149	24,262

1 Nominal rent is deflated by the Canadian industry selling price index for total manufactured goods (1971 = 100) to yield rent in constant dollars (real rent).

SOURCE Nancy D. Olewiler, "The Potash Corporation of Saskatchewan: An assessment of the creation and performance of a Crown corporation," Economic Council of Canada, Discussion Paper 303, Ottawa, April 1986.

Table 7-2

Return on Initial Investment[1] plus Subsequent Capital Expenditures in the Potash Corporation of Saskatchewan, 1979-84

	1979	1980	1981	1982	1983	1984
			(Per cent)			
Net income						
Before depreciation	13.9	25.5	16.6	0.06	-1.6	2.1
After depreciation	13.9	26.6	17.8	0.06	-1.7	2.3
Rent						
Before depreciation	24.3	39.1	24.9	1.60	-0.5	3.8
After depreciation	24.3	40.8	26.8	1.60	-0.5	3.8
			($ millions)			
Total nominal value of capital stock						
Before depreciation	560.2	657.2	852.0	992.5	1,101.2	1,215.1
After depreciation	560.2	629.6	793.9	970.2	1,044.8	1,120.9

1 Based on figures for net income and rent shown in Table 7-1, in current dollars.

Source: Nancy D. Olewiler, "The Potash Corporation of Saskatchewan: An assessment of the creation and performance of a Crown corporation," Economic Council of Canada, Discussion Paper 303, Ottawa, April 1986.

and has largely been freed from other public-policy objectives. It was also created during a period of intense conflict between the provincial government and private producers. Lack of cooperation between the two levels of government and between the public and private sectors made it difficult to adopt theoretically sound methods of rent capture in this sector. Before partially nationalizing the industry, the Saskatchewan government had tried to obtain potash rents through taxation; the latter viewed PCS as a means of resolving the rent-capture conflict.

If government enterprise is to be an efficient vehicle for rent collection, the government must acquire the private firm in such a way that rents are not capitalized in the purchase price or dissipated through the conflicts associated with takeover. It is also necessary that problems in controlling the public corporation can be successfully resolved. This will be more difficult where the corporation has been assigned a complex mix of social and economic objectives. As well, control will be complicated where the corporation is involved in a new exploration venture and there are no satisfactory private-sector benchmarks by which to gauge its financial performance. Such problems perhaps explain why government enterprises have generally not been established for the sole purpose of collecting rents.

The use of government enterprise as a "window" to provide information on, and assist in the taxation and regulation of, private firms in the industry may also be problematic. Significant benefits could be realized only if the government could not compel private firms to supply the required information and if the public firm were reasonably representative of private firms in the industry. These conditions were applicable, to some extent, in the potash situation, but often they will not apply. In the debate leading to the creation of Petro-Canada, for example, there was discussion of the need for a state corporation that could serve as a "yardstick."[13] The expectation was that the corporation would advise the government on the true costs of oil and gas exploration and production, and assist in the assessment of private firms' performance. But Petro-Canada has never been used as a "yardstick." The federal government obtains firm-specific information through disclosure laws and the activities of the Petroleum Monitoring Agency. Not only is a "yardstick" not needed, but given the differences in operation between Petro-Canada and other firms, the public corporation could serve as a very misleading standard for the assessment of private corporations.

In general, a government enterprise will not be an appropriate instrument for the purposes of rent collection. A review of the available alternatives suggests that a tax that is related to profits, along with a minimum gross royalty, will often be the preferred means for capturing rents on nonrenewable resources.[14] The experience of PCS indicates, however, that government enterprise can play a useful role at times when alternative approaches would be particularly costly or

difficult. A similar message comes through from the events leading to the formation of British Columbia Petroleum Corporation.

British Columbia Petroleum Corporation

The main problem that confronted the B.C. government and prompted the formation of BCPC was the unwillingness of the National Energy Board (NEB) in the early 1970s to establish what, from the provincial perspective, was an appropriate export price for natural gas. Seventy per cent of all gas produced in British Columbia was exported to the United States. Westcoast Transmission, the sole buyer and exporter of the gas, came under the jurisdiction of the NEB. The federal regulatory body had control over the rates the company could charge and the volume of gas it could sell. During this period, gas prices on Canadian exports were set low to comply with the Federal Power Commission's policy to encourage gas usage by U.S. consumers.

The role and actions of the NEB became a particular source of frustration to the provincial government when energy prices skyrocketed in the wake of the 1973 oil crisis. The new market realities called for a substantial increase in export prices and in the rates paid to the B.C. natural-gas producers, who were under long-term contract to Westcoast Transmission. In the government's view, failure to adjust rates would deny the province its rightful return on a valuable resource. There was also concern that the disparity in field prices between British Columbia and other jurisdictions (most notably Alberta) would lead to a significant loss of investment. As well, partly because of the pricing arrangements, Westcoast was having difficulty obtaining the gas to meet its export commitments. The NEB failed to respond to these concerns.

Following a recommendation from the B.C. Energy Commission,[15] BCPC was created and designated as the new monopoly buyer of provincial gas. Westcoast Transmission was transformed into a contract carrier, operating on a cost-of-service basis. Using an NEB regulation that requires export prices to exceed domestic prices, the new corporation succeeded in doubling gas prices at the border over the course of 1973. Provincial revenues increased accordingly: in that first year, the corporation remitted $29 million to the government — a 350 per cent increase over the royalties of the previous year.[16]

Public ownership in this case was particularly suited to overcoming the effects of a set of regulatory and contractual arrangements that did not serve the province's best interest. The B.C. Corporation was able to eliminate the implicit subsidy to U.S. importers. The rents that were captured flowed partly to B.C. gas producers (who benefited from higher field prices), partly to domestic consumers (who benefited from the subsidy to domestic wholesale prices), and partly to B.C. residents generally (who benefited from the increased government revenue).

Enhancing Security of the Energy Supply

Concern over the availability of energy supplies had a significant influence on resource policies in the 1970s and was important in determining the role of such public corporations as Société québécoise d'initiatives pétrolières (SOQUIP), Ontario Energy Corporation, and Petro-Canada. At the federal level, attention focused particularly on Canada's trade deficit in crude oil in the years after 1973. The reduction of Canada's dependence on oil imports became an objective of federal policy and in 1980 became one of the cornerstones of the National Energy Policy.

Security of supply can be a response to the possibility of both short-term disruptions and longer-term shortages of energy supplies. The former seems a remote possibility in the immediate future, given the state of the world oil market. Moreover, Canada's vulnerability has declined considerably over the past decade because of both a drop in imports and a decline in the proportion that comes from relatively insecure supply areas. It is of interest, however, that there are solutions to the problem of short-term supply disruptions should this become an issue. The Canadian government has, in fact, developed plans to alleviate the consequences of any cutback in imports to Canada's eastern provinces. The options for further reducing Canada's vulnerability have also been examined: one study found that the least costly approach was likely to involve the storage of oil in salt caverns in the Strait of Canso.[17]

Government enterprise is more relevant to longer-term supply considerations, but here the basic rationale for government intervention requires closer examination. The optimal rate for exploitation of Canada's energy resources depends on the overall net benefits of production today, compared with production at a later date. For a number of reasons, market outcomes reflecting net benefits to private individuals may differ from those based on net benefits to society as a whole.

In general, it will not be desirable to exploit a resource today if prices are increasing more rapidly than the discount rate at which future benefits are evaluated; it is only reasonable, in this case, to hold back exploration and development because of the expectation of greater benefits in the future. There may be a difference,

however, between private and social discount rates, with the latter, perhaps, giving greater weight to longer-term benefits that may only be realized by future generations. Governments and private investors may also differ because individual firms without "clear title" to a resource have no incentive to consider prospective future returns: where a firm cannot be sure of its ability to exploit a prospect at a later date, future price increases are irrelevant; as well, private investors will have no incentive to take account of the costs that accelerated depletion of nonrenewable resources may impose on future owners.

These considerations do not, in general, suggest a need for government enterprise. Differences between private and social discount rates affect all saving and investment decisions in the economy; it would be inappropriate to focus on natural resources as distinct from all other capital assets. The solution to the inefficiency that arises from the fact that individual firms do not "own" resource rights lies in an appropriately designed tax. This would attempt to slow down the rate of depletion to approximate what would occur if firms considered the effect of expected price increases and the impact of their activities on future resource development costs.

There are, however, other problems that could provide a basis for direct government involvement in resource markets. These relate particularly to the existence of various externalities that will often lend themselves to inefficient exploration and development by private resource firms. In understanding these issues and the possible role of government enterprise as a corrective for problems of energy supply, the experience of Petro-Canada is instructive.

Petro-Canada

With the passage of the *Petro-Canada Act* in 1975, the federal government created a major public corporation to operate alongside the subsidiaries of multinational corporations that were the main participants in the Canadian oil industry. The mandate of the corporation, as enumerated in the 1975 Act, was to:

- engage in exploration for, and development of, hydrocarbons and other types of fuel or energy;
- engage in research and development projects relating to fuel and energy resources;
- import, produce, transport, distribute, refine, and market hydrocarbons of all descriptions;
- produce, distribute, transport, and market other fuels and energy; and
- engage or invest in ventures or enterprises related to the exploration, production, importation, distribution, refining, and marketing of fuel, energy, and related sources.

The establishment of Petro-Canada was useful in its own right as a signal of government efforts to exercise control in an area where Canada was suffering the consequences of its vulnerability to external events.[18] The federal government stressed the contribution that a publicly owned company could make to reducing the growing imbalance in Canada's oil trade. To this end, Petro-Canada was encouraged to undertake an active exploration program in the frontier areas of Canada where sizable reserves of hydrocarbons were believed to exist and to promote the tar sands and related nonconventional projects. Petro-Canada was also to provide the government with a window on the oil and gas industry and to serve as an import agent for the purposes of negotiating agreements that could increase Canada's security of oil imports. In carrying out these activities, Petro-Canada would contribute to the ongoing objective of increasing Canadian control and participation in an industry dominated by foreign firms.

A major role for Petro-Canada was thus to add to the industry's exploration and production capacity:

> The national petroleum company will add significantly to the industry's total capacity to identify and bring into production Canada's oil and gas resources. It is not, however, intended in any way to displace the private sector.... Nor is it intended to discourage investment by foreign companies, which will continue to be welcome.[19]

At the time of its creation the possibility of the corporation entering into downstream activities was foreseen but not given much attention:

> ...the company will not be prevented by law from entering the refining and distribution fields, but its most immediate and present tasks may not lead to this for some time.[20]

Petro-Canada commenced operations in 1976 with an initial five-year budget of $1.5 billion. In 1985 Petro-Canada had assets totaling $8.8 billion and was (on the basis of assets) the ninth largest firm in Canada. Most of the corporation's growth has come from acquisitions. In 1976 the federal government transferred its 45 per cent interest in Panarctic Oils Ltd. and its 15 per cent interest in Syncrude to Petro-Canada. That same year, Petro-Canada acquired the Alberta and B.C. assets of Altantic Richfield Canada Ltd. (renamed Petro-Canada Explorations Inc.). In 1978-79 Petro-Canada purchased Pacific Petroleum, marking the beginning of its entry into downstream activities. In 1981 it purchased the

retail stations of Merit Oil Co. in British Columbia. That same year, the acquisition of Petrofina Canada Limited further increased Petro-Canada's holdings in conventional and synthetic hydrocarbon reserves in western Canada and provided the company with a refining and marketing presence in eastern Canada.

In 1983, with its acquisition of BP Refining and Marketing Canada (which had downstream operations in Ontario and Quebec), Petro-Canada's national market share of sales of refined oil products increased to about 14 per cent. More recently, Petro-Canada acquired those downstream assets of Gulf Canada west of Quebec, at a total cost of $895 million. As a result of this latest acquisition, Petro-Canada is now the largest refiner-marketer in Canada, with some 4,300 retail gasoline outlets and seven refineries.[21]

Along with its growth has come a significant change in the corporation's role as an instrument of public policy. This change was noted by W. H. Hopper, Chairman of Petro-Canada, in the company's 1984 Annual Report:

> In the first nine years, Petro-Canada was directed to work towards Canada's energy security effectively and efficiently, without overriding concern for profitability. The Corporation has now been given a new mandate by its shareholder — to operate in a commercial, private-sector fashion, with emphasis on profitability and the need to maximize the return on the Government of Canada's investment. In this regard, Petro-Canada is not to be perceived in the future as an instrument in the pursuit of the Government's policy objectives. However, the Government maintains the right as the shareholder to formally direct Petro-Canada to carry out certain activities in the national interest.[22]

While Petro-Canada may no longer be an instrument of policy, it is useful to ask whether it has fulfilled a valid policy role and done so effectively. Petro-Canada's contribution to increasing the supply of energy resources has come from its activities on the geographical and technological frontier. While the company has been a major participant in conventional activities (see inset), its conventional oil and gas production could have been undertaken by private firms. Conventional activities have essentially provided the expertise, and generated the funds, for nonconventional activities.

Petro-Canada's downstream activities have also served primarily to provide a source of internally generated funds to finance the corporation's riskier projects. There were clear advantages, from the perspective of both the government and Petro-Canada's management, to placing the corporation in a position where it was not dependent on regular appropriations from Parliament. The movement into downstream has had other political implications as well. The acquisition of Petrofina Canada and the downstream assets of BP Canada increased the corporation's visibility in eastern Canada, at a time when it was enjoying a high degree of public support. While there has been some discussion of the possibility of Petro-Canada's acting as a window on the downstream sector, this role is not acknowledged by the corporation itself. A recent statement by Mr. Hopper reflects Petro-Canada's view:

> In many discussions we have had with the government, our refining and marketing activity has not been seen as an instrument of national policy, but as a commercial activity carried by the corporation in a competitive climate in order to provide cash flow for our mainline operation of exploration.[23]

Concern has been expressed that Petro-Canada's acquisitions, and especially its purchase of Gulf's refining and marketing assets west of Quebec, have added to concentration and reduced competitive prospects in the downstream part of the industry. In its recent report on competition in the Canadian petroleum industry, the Restrictive Trade Practices Commission found that Petro-Canada's policy of rapid growth by acquisition has been a "mixed blessing":

> Although it has increased concentration significantly, it has at the same time consolidated the regional refining and marketing operations of several companies into a potentially stronger competitive force throughout Canada.[24]

Petro-Canada has, as initially expected, assumed an important role in far northern and offshore exploration (see inset). In so doing, it has been influenced by a number of significant incentives. Petro-Canada was given special exploration and production rights on Canada Lands, as well as an option to "back-in" to certain underdeveloped ventures by private firms on Canada Lands (under Section 120 of the Canada Oil and Gas Land Regulations). It also benefited from some general incentives to encourage frontier exploration — notably, the "super-depletion allowance" that existed from 1977 to 1980 and the petroleum incentive payments (PIPs) introduced in 1980 under the National Energy Program.

Petro-Canada has devoted a high share of its capital expenditures to frontier investment. With the exception of 1979 and 1980, the corporation has consistently allocated more of its capital spending to the frontiers than to western Canada (see Table 7-4). The relative importance of frontier exploration during the period 1981-84 falls substantially when allowance is made for the PIP grants received by the corporation; nonetheless, Petro-Canada's portfolio differs substantially from that of private firms in the industry. Whereas from 1976 to 1981

Petro-Canada's Exploration and Production Activities

Petro-Canada has become a major contributor to Canadian production of oil and gas. In 1984 the company accounted for about 6 per cent of the total amount of conventional and synthetic oil produced in Canada.[1] It ranked fifth overall in gross oil and gas liquids production, producing at a rate of 16,700 m^3/day.[2] At the end of 1985 Petro-Canada's proven reserves of conventional oil totaled 45.3 million m^3, down some 6 per cent from 1984 levels.[3] Based on the information in respect of 1984 net proven crude oil and gas liquid reserves, the company ranked second in the industry.[4]

In 1985 Petro-Canada continued to be the leading driller of exploratory wells in nonfrontier areas, topping its 1984 record with 166 wells drilled. Of these, 62 per cent were successful. The company also participated in 565 development wells.[5]

Petro-Canada ranked as the third largest natural gas producer in 1984, contributing to nearly 6 per cent of all gas production in Canada.[6] It is the largest producer of gas in British Columbia and is among the top four in Alberta. The corporation's proven reserves totaled 98.8 billion m^3 at year end 1985, down about 18 per cent over 1984.[7]

In light of the continued decline of the industry's conventional oil reserves in western Canada and of the extensive reserves of heavy oil and oil sands in Alberta, Petro-Canada has been actively studying oil sands as a medium-term supply source. In 1983 the corporation became a 50 per cent partner in the construction of a $150-million *in situ* oil sands plant at Wolf Lake, Alberta. The project uses traditional steam-injection techniques to extract bitumen from about 200 wells. Commercial production began in April 1985.

Petro-Canada has been active in exploring Canada's frontier potential for oil and gas, including regions off the East Coast and in the Northwest Territories and the Arctic. Petro-Canada is a major participant in the Sable Island region off Nova Scotia as well. Its combined $2.5-billion Venture project with Mobil Oil has concentrated on determining sufficient reserves to support a commercial gas project. Further north, the corporation is active in the Arctic Islands through its controlling interest of Panarctic Oils Ltd. The company is also conducting an active exploration program in the Northwest Territories. Petro-Canada's position in frontier areas compares favourably with that of its competitors, as shown in Table 7-3.

From 1982 to 1984 the company spent about 62 per cent of its exploration budget on frontier wells. For 1984 these expenditures amounted to some $565 million. In 1983 four exploration agreements were concluded, with the federal government covering 2.2 million hectares of Crown land off Newfoundland. During 1985 Petro-Canada's Hibernia Project Development Plan was filed, outlining a schedule of investments that will total $4 billion by production start-up in the early 1990s.[8]

1 In 1985, Canadian production of crude and synthetic oil was approximately 85,350 thousand m^3, of which Petro-Canada's share was 4,927 thousand m^3 (based on daily production of 13.5 thousand m^3). See Statistics Canada, *Crude petroleum and natural gas production*, Cat. 26-006, Ottawa, December 1985, Table 1; and Petro-Canada, *1985 Annual Report*, Calgary, 1985, p. 47.
2 *Oilweek* 36, no. 20 (June 17, 1985): 18.
3 Petro-Canada, *1985 Annual Report*, p. 46.
4 The top five in 1984 were Imperial Oil (171,800 thousand m^3), Petro-Canada (80,200 thousand m^3), Suncor Inc. (68,900 thousand m^3), Dome Petroleum Ltd. (53,767 thousand m^3), and Gulf Canada Ltd. (49,100 thousand m^3). See *Oilweek*, June 17, 1985.
5 Petro-Canada, *1985 Annual Report*, p. 46.
6 Statistics Canada, *Crude petroleum and natural gas production*, Table 1; and Petro-Canada, *1985 Annual Report*, p. 47.
7 Its 1984 gas reserves of 120.4 billion m^3 ranked Petro-Canada second only to Dome Petroleum Ltd. at 131.6 billion m^3 See *Oilweek*, June 17, 1985.
8 Petro-Canada, *Annual Reports* (1983, 1984, and 1985).

Petro-Canada committed 60 per cent of its exploratory expenditures to the frontier, the comparable figure for the petroleum industry as a whole was less than 20 per cent.[25]

Petro-Canada has also given expression to its role as an "energy developer" through its participation in the Syncrude project and its research activities into heavy oil extraction. By its participation in the Syncrude tar sands development, Petro-Canada has lowered the cost and the risk of this venture to private companies. The importance of oil sands research and development relative to total capital spending declined substantially, beginning in 1979 (Table 7-4), at which time Syncrude came into operation and became a net contributor to Petro-Canada's cash flow.

While Petro-Canada has contributed to the development of nonconventional sources of energy supply, this is only desirable if there is some problem causing pri-

Table 7-3

Comparative Permit Holdings in the Canadian Frontier, 1984

	East Coast	Arctic Islands	Beaufort/ NWT	Other[1]	Total
			(Millions of net acres)		
Petro-Canada	33.2	2.3[2]	20.5[3]	5.8	61.8
Dome Petroleum	5.4	11.1[4]	9.5	-	26.0
Gulf Canada	13.6	2.7	3.2	-	19.5
Imperial Oil	8.9	2.2	7.2	-	18.3
Shell Canada	9.6	-	0.6	6.5	16.7
Chevron Canada	6.1	-	-	8.1	14.2
Mobil Canada	8.3	-	0.4	-	8.7
Texaco Canada	6.8	-	0.4	0.3	7.5
Canada Development Corporation[5]	5.0	0.2	1.2	-	6.4
Suncor	2.3	3.4	0.4	-	6.1
BP Canada	5.9	-	-	0.1	6.0
Amoco Canada	1.5	-	1.8	-	3.3
Canadian Superior	0.2	0.1	1.8	-	2.1
Husky Oil	1.4	-	-	-	1.4

1 Primarily West Coast, offshore.
2 Excluding Petro-Canada's 54 per cent interest in Panarctic's 11.9 million net acres.
3 Of which, 18.2 million acres are located in the Northwest Territories.
4 Excluding Dome's 6 per cent interest in Panarctic's 11.9 million net acres.
5 Held through wholly owned subsidiary, Canterra Energy.
SOURCE Dominion Securities Pitfield, *Petro-Canada — An Examination of Its Position in the Canadian Oil Industry*, September 1984.

vate firms to explore and extract resources at too slow a pace. Are there reasons why private firms would not explore for oil that could be economically developed? When Petro-Canada was created, resource development was discouraged in part by regulations that held the price for new oil discoveries below the world level. We examined this in some detail in a previous Council study.[26] To the extent that this was a cause of the inadequate level of frontier exploration, the establishment of a public corporation was a roundabout solution to a problem arising from price controls.

There are, however, other problems associated with resource exploration in general and frontier exploration in particular. One problem arises from the fact that any information obtained from drilling a well affects the probability of discovering oil and gas on neighbouring parcels of land. Where many firms are involved, it may be costly and difficult to work out an arrangement for efficiently and equitably sharing information. It may also be difficult for the firm that does drill to realize the full value of the information it has acquired. The result is likely to be an inappropriate rate and geographical distribution of exploration activity.

Exploration by individual firms in the frontier may also be discouraged because of the need for threshold levels of oil and gas to be found before a pipeline or other transport facility can be built. Evidence that these threshold levels are available will increase the expected return from exploration. Again, therefore, there is an incentive for individual firms to delay their drilling so as to benefit from the information arising from the exploration activities of others.

Another problem arises where different firms are attempting to exploit a common oil or gas pool. Competition among these firms for the migratory oil in the pool will lead to higher extraction costs and socially inefficient production levels.

The solution to all these problems, as well as to the especially high degree of risk that tends to be associated with frontier exploration, is a system of unitized exploration and production.[27] Governments can promote unitization through an appropriate system for allocating exploration and production permits on Crown land. Given the possible benefits, there is also some justification for the government to take a more active role and to serve as a catalyst in the formation of the required consortia. While Petro-Canada has played an important role in coordinating and stimulating frontier exploration, the prototype for this form of government involvement is Panarctic Oils Ltd. This consortium, formed in 1967, had 19 shareholders besides the Government of Canada. By that year it had succeeded in obtaining exploratory rights to a substantial portion of the Arctic Islands by negotiating arrangements with 75 companies and individuals and acquiring permits on additional Crown acreage.

Table 7-4

Petro-Canada: Capital Expenditures and Petroleum Incentive Program Receipts, 1976-84[1]

	1976	1977	1978	1979	1980	1981	1982	1983	1984
					(C$ millions)				
Capital expenditures:									
Foreign	. .	0.4	1.3	15.0	20.3	19.2	581.0[2]	299.0[2]	380.0[2]
Western Canada	8.5	36.9	41.7	203.3	193.9	191.2			
Frontiers	25.9	56.2	63.5	44.8	137.3	246.5		537.0	565.0
Oil sands									
Syncrude	76.6	88.5	78.7	13.0	10.2	16.0	50.3[3]	. .[3]	. .[3]
Other	. .	0.7	12.3	12.6	28.5	55.4			
Manufacturing and NGLs	. .	. .	. .	44.1	5.9	24.4	172.9[2]	. .	129.0[2]
Marketing	. .	. .	. .	5.8	10.4	49.9			
Other[4]	11.7	6.0	49.8	29.1	33.0	107.2	249.6	194.0	78.0
Total[5]	122.7	188.7	247.3	367.7	439.5	709.8	1,053.8	1,030.0	1,152.0
Sources of funds:[6]									
PIP grants[7]	. .	. .	. .	. .	. .	138.8	300.0	468.5	380.3
Cash flow from operations[8]	24	56	100	262	350	388	380	590	. .
Equity from Government of Canada[9]	. .	. .	. .	. .	80	440	385	368	. .
Total	24	56	100	262	430.0	966.8	1,065.0	1,426.5	380.3

1 The figures in this table do not include asset transfers from the federal government or stock purchases.
2 Finer breakdowns are not readily available.
3 Capital expenditures for these items may be included under "Western Canada," but it is not possible to say for certain, since the Annual Reports are not clear on this point.
4 The reported figures have been derived residually.
5 These figures represent capital expenditures prior to accounting for petroleum incentive payments (PIPs).
6 Excluding debt raised in capital markets.
7 Paid by the federal and Alberta governments.
8 Net after dividends paid on redeemable preferred shares.
9 Cash contribution in the form of $100,000 par-value common shares and $1 par-value redeemable preferred shares, issued by Petro-Canada to the Government of Canada; excludes contribution received from the Canadian Ownership Account.

SOURCE Based on Paul Halpern, André Plourde, and Leonard Waverman, "Petro-Canada: Its role, control and operations," Economic Council of Canada (forthcoming); and Dominion Securities Pitfield, *Petro-Canada — An Examination of Its Position in the Canadian Oil Industry*, September 1984.

While the social benefits from unitized exploration in the frontier suggest that it is desirable for the government to assist in the formation of exploration and development consortia, this role does not require a public corporation. In the Panarctic approach, the government assumes equity participation in the new firm to contribute to the formation of the consortium. But once exploration has been unitized and the necessary agreements are in place, there is no longer any reason for government intervention. The government has the same ongoing responsibility as any other major equity holder to monitor the management of the operation, but that is all. Indeed, after the consortium is firmly established there will often be no need for the government to maintain its equity holdings and retain its involvement in the entity.

Petro-Canada was also expected to contribute to the security of Canada's energy supplies through its activities as an oil importer. The corporation's role in this area has been much less important than originally anticipated. There is no evidence from its activities that a public corporation can secure oil imports on more favourable terms than a private corporation. Moreover, prior to Petro-Canada's creation, there existed a public corporation that could fulfil any need for state-to-state trading. Canadian Commercial Corporation, a wholly owned federal Crown corporation, was established in 1946 precisely to "assist in the development of trade between Canada and other nations."

A possible further justification for establishing a public corporation rests on the government's need for infor-

mation to formulate appropriate energy policy. A government enterprise may fill this need in two ways. First, it can assist government policy makers by keeping them advised on general industry trends and developments and by providing them with the information they require on specific projects. The public corporation would be serving as a window, although in a different sense than that discussed previously; here, the corporation is contributing to policy development rather than assisting in the enforcement of tax or regulatory measures. Second, a government enterprise may provide the government with valuable information by undertaking exploration that will help delineate the extent of Canada's hydrocarbon resource base. Government intervention in exploration may be justified if the value of information that arises as a by-product of the exploration process is such that the value of exploration to society significantly exceeds its value to individual investors.

Petro-Canada has to some degree served as a source of information and policy advice for the federal government. It has been noted, for example, that in the case of the Hibernia oil discovery, Petro-Canada "was more open and forthcoming with information ... than were the private companies involved in the same project."[28] At the same time, however, when a public corporation serves as a policy adviser, there is an obvious danger that its advice will be coloured by the corporation's own needs and interests.

By contributing to an accelerated pace of frontier exploration, Petro-Canada has also increased the information available to policy makers. A more rapid rate of exploration can, however, be effectively encouraged through subsidies. The requirement for more direct government intervention arises from the information and production externalities referred to previously. If exploratory information is important for policy-making purposes, this will make it all the more desirable for government to subsidize and support the formation of a consortium to engage in unitized exploration.

In general, while there are arguments for government intervention in the exploration and development of energy resources, the public-policy needs that exist do not require a major state oil corporation.

In its recent report, the Restrictive Trade Practices Commission suggested that Petro-Canada could fulfil a policy role by acting as a positive force for competition in the downstream sector. It could, states the Commission, "be required or induced in appropriate circumstances to act in such a way as to positively foster competition, rather than merely refrain from reducing it by the means proscribed by the Combines Investigation Act."[29] To promote this objective it is proposed that the Minister of Consumer and Corporate Affairs, who is responsible for the administration of competition policy, be involved in the review of Petro-Canada's corporate plan and capital budget.

While the concept of using public firms as instruments of competition policy is ostensibly appealing, it does raise a basic concern.[30] The appropriate instrument for addressing problems related to anticompetitive behaviour is the *Combines Investigation Act*. When the government uses a public firm to do what it cannot do through the Act, there is to some extent a substitution away from "the rule of law" towards the rule of politicians and government officials. While the proposal by the Commission is, in fact, a fairly modest one, it does broach this broader and more fundamental issue concerning the use of discretionary power by public officials. Moreover, it is exceedingly difficult in practice to apply competition policy through public firms. When a public firm has a broad, vague mandate such as to promote competition, the assessment of corporate performance is greatly complicated. Poor financial returns may result from poor management or from the efforts of the firm to stimulate competition; the relative importance of each is very difficult to determine. Serious monitoring problems could indeed lead to a deterioration in performance, with the perverse result that the public firm is less of a spur to competition than it would otherwise be.

In some situations public firms have been a stimulus to competition; frequently cited examples from the past include ENI (the Italian State oil company), Renault (the French auto maker), and Volkswagen (the West German auto company). In these cases the benefits seem to have come from the entry of aggressive and innovative competitors into industries characterized by sluggishness and a lack of competitive challenge. The public firms were not tools of competition policy; indeed, their commercial success has been attributed precisely to their relative freedom from government interference.[31]

Security-of-supply concerns and other proposed objectives do not, in our view, make a strong case for public ownership in the oil and gas sector. Moreover, Petro-Canada's role has changed over time: the new emphasis being given to the corporation's commercial role reinforces our scepticism about the desirability of continuing public ownership. Even if appropriate discipline could be imposed on Petro-Canada's management to ensure that the corporation would be run as an efficient commercial venture, public ownership must give rise to concerns; there are inevitably costs when the organs of the state are diverted from the formulation and administration of policy to the administration and control of commercial activities.

Given all these considerations, we favour the privatization of Petro-Canada. The process of privatization must, in our view, be carried out so as not to sacrifice the very significant contribution that Petro-Canada has made to increased Canadian ownership and control in the oil and gas industry. We believe that the shares of Petro-Canada should be sold through a general offering restricted initially to Canadians. We are against the establishment of specific limits on the shares to be held by specific individuals or groups. Such limits would eliminate the important disciplinary force that exists through the takeover market. While a takeover by certain groups would be contrary to the public interest, when and if such problems arise, they are appropriately addressed by the application of relevant Canadian legislation (including, particularly, the *Combines Investigation Act* and the *Investment Canada Act*).

Therefore, given that it is not now fulfilling an important public-policy role,

7.1 We recommend that Petro-Canada be privatized. The corporation should be sold through a broad share offering made initially only to Canadians, but no specific legislative restrictions should be placed on individual shareholdings.

In privatizing Petro-Canada there is an opportunity to reduce somewhat the degree of concentration in the downstream segment of the industry. It is likely that Petro-Canada's market share is now greater than what is necessary to realize available economies in downstream activities.[32] If this is the case, some of Petro-Canada's refining and marketing assets could be split up and sold separately without jeopardizing the efficiency of the corporation, which is to be sold through a public share offering. Even if there is some efficiency cost, however, this may be more than offset by the resulting public gains if the government is able to promote the entry of one or more new firms into the downstream portion of the industry. The possibility of selling Petro-Canada's refining and marketing assets to more than one buyer to promote increased competition should therefore be investigated.

The process of privatizing Petro-Canada raises a number of complex issues. Any major privatization is likely to set in train a process of rationalization and adjustment that could have significant implications for employees of the enterprise. These problems should be less intense inasmuch as Petro-Canada has already gone through a down-sizing phase, but they are unlikely to be totally absent. Privatization may affect the commitments that a corporation has, not only with its employees but also with its creditors and perhaps its customers and suppliers. In addition, there are the problems in determining when to issue a corporation's shares and at what price.

The issue of timing deserves some comment in view of the concerns that may arise from a proposal to sell Petro-Canada at a time when oil markets are badly depressed. Whenever the government sells Petro-Canada it should be able to receive a fair price, reflecting the market's expectation of future earnings. If it is generally expected that oil prices will recover in the medium term, this would be incorporated in the current valuation of Petro-Canada shares. It would not make sense to delay the sale of the corporation unless potential purchasers were to consistently underestimate its earnings potential. This is most unlikely to be the case.

Promoting Development

In a number of cases, public ownership has been seen primarily as a means of ensuring that the province's nonrenewable resources contribute to the development of the local economy. As in the case of rent collection, concern has focused particularly on multinational corporations, whose actions were often believed to be inimical to the interests of the province. The appeal of government enterprise arises from the opportunity it provides to exercise greater direction over economic development. The role of these "development" enterprises will be examined by focusing on two Quebec corporations: the Société québécoise d'exploration minière; and the Société nationale de l'amiante.

Société québécoise d'exploration minière

This corporation, which is now in the process of being sold to private investors, was formed in 1965 as a joint stock company — the Government of Quebec being the sole shareholder. In its original charter, SOQUEM was required to engage in mineral exploration; to participate in the development of mineral discoveries made by the private sector; and to help bring mineral deposits into production either by selling them to companies or by transferring them in return for participation.

The corporation's mandate was amended in 1980 to cover:

a) Mining exploration by all possible methods.

b) Research, development, and mining operations, and processing of mineral substances.

In addition, the mandate says:

> To these ends, the Corporation may, in accordance with the Act, enter into association or conclude agreements with other persons or corporations.
>
> In pursuing these objectives, the Corporation must strive for profitability.

It should be pointed out that subparagraph a) of the mandate was not changed: the primary activity of SOQUEM remained mining exploration; however, the mandate was expanded to include mining operations, development, and processing. Initially development and mining could only be carried out in conjunction with another party, and processing was not mentioned at all.

SOQUEM was created in response to the decline in exploration expenditures in Quebec and also to the instability of this expenditure. The public corporation was expected to contribute to more orderly exploration; to help reduce the risks and overcome the difficulties that smaller mining companies were experiencing; to increase the information available on ore reserves in the province; and to help integrate the mining industry with the rest of the economy. Like the other public enterprises created in Quebec over this period, it was also expected to contribute to greater participation by Quebecers in the provincial economy; the perceived need to expand the opportunity for French-speaking managers in the Quebec mining industry was an important consideration.

SOQUEM has become an important "junior" Canadian mining company. It has made some significant discoveries and been successful in attracting private firms into joint mining ventures in the province. SOQUEM has, at the same time, expanded management opportunities for Quebecers in the provincial mining industry.

A study prepared for the Council found that SOQUEM's annual rate of return on its productive capital from 1970 to 1981 ranged from −10.6 per cent to 25.5 per cent.[33] Its average annual rate of return for the entire period was 4.6 per cent. This works out to one-third of the before-tax rate of return achieved by the Canadian nonferrous-metal mining industry as a whole. There are a number of factors that can help explain this difference: SOQUEM is a relatively young company, and the comparison base contains companies of all sizes and ages. In addition, the public corporation is required to undertake its mining activities in the province of Quebec. The study suggests that this latter restriction alone may account for approximately half of the observed difference in rates of return.

The subsidy to Quebec mining activity that is implicit in SOQUEM's low rate of return may be partly justified by some of the market imperfections we discussed earlier with respect to Petro-Canada. In particular, exploration by one firm will often generate information on the nature of mineral deposits that is of considerable value to other firms operating in the vicinity. The firm undertaking the drilling, however, cannot realize the value of this information unless it owns the neighbouring sites and is therefore in a position itself to make use of the information. The effect of this problem will be to contribute to a less than optimal degree of mining exploration. If it is not offset by other market imperfections associated with mining (most notably, the failure of firms to consider the high future costs that are associated with more rapid resource depletion), then a subsidy may be warranted. There are additional costs and no apparent advantages, however, when this subsidy comes through the use of a public corporation instead of being provided directly.

Another potential problem — and one that applies particularly to mining — arises from the possibility that there will be a significant difference between the useful life of mines and that of the social infrastructure built around them. Where a mining company has little or no responsibility for the social infrastructure, the latter will not enter into the firm's commercial calculations. The risk that this will lead to major social losses can be reduced by subjecting proposed public investments to more careful assessment and by better coordinating infrastructure investment and other public incentives designed to encourage particular mining activities.

More generally, to justify the use of government enterprise in mining exploration, one must look beyond the particular problems associated with this activity. In the case of SOQUEM this justification may have come from broader political objectives, notably the desire to enhance Quebecers' control over their economy. In the early 1960s French-Canadian firms accounted for just over 2 per cent of value added in mining in Quebec.[34] In terms of its capacity to rectify the underrepresentation of French Canadians and give expression to the general themes of the "Quiet Revolution," public enterprise was a unique instrument of public policy. The role of Quebec public corporations in this regard, however, has declined substantially in importance in recent years. This change is in keeping with the changed circumstances in the province:

> The 1960s were witness to a determination to give Quebec an economic and managerial infrastructure that would allow it to take its rightful place in the North American economy. The government acted to rectify the shortcomings of the private sector, where Francophone Quebecers were under-represented. Things are very different today.[35]

Société nationale de l'amiante

The SNA was created in May 1978 as a state-owned asbestos corporation. This action was prompted by a number of concerns, including: the minimal degree of local processing of asbestos fibres (less than 3 per cent of mine output was processed in 1978); the high degree of foreign ownership (five foreign-owned companies controlled production); and the "poisonous" working conditions in the industry.

Through its constituent Act, SNA was empowered to engage in: exploration and development of asbestos; marketing; the promotion of local processing; and research into the uses of asbestos. After a long dispute, the government reached an agreement with General Dynamics of St. Louis at the end of 1981 to purchase its controlling interest in Asbestos Corporation Ltd. (ACL). As a private corporation, ACL accounted for approximately 30 per cent of Quebec's primary asbestos production.

The asbestos industry in general has entered upon extremely hard times since 1978. Concerns over the health hazards associated with asbestos have contributed to a weakening of demand and of prices. If the current efforts of the U.S. Environmental Protection Agency to achieve a complete ban on asbestos in the United States are successful, the industry's difficulties will be exacerbated. While exports to the United States are now very low, such a ban could undermine Canada's sales to important Third World markets.

SNA has not escaped these problems. The corporation's losses have been mounting steadily in the 1980s, having reached $21.4 million in March 1985.[36] The government's objective of promoting increased local processing has been a victim of these difficult circumstances. As a recent study pointed out [p. 237]:

> A generous estimate of the number of jobs actually created by the SNA's investments to this point ... would be between 150 and 200. Since the government has invested approximately $49.1 million in the SNA ... it has been spending about $280,000 to create one job in the manufacturing sector, hardly an encouraging performance. The increase in local processing of asbestos, one of the principal objectives of the government's asbestos policy, has thus far been negligible.[37]

Overall employment at SNA has declined substantially as a result of the consolidations that have taken place to respond to the fall in demand for asbestos and the build-up of inventories. Earlier this year, SNA entered into a joint venture with the two private mining companies with interests in asbestos operations in the Thetford Mines district of Quebec (Lac d'Amiante du Québec and Canchib Mines). Four of seven mines in the region have been closed over the past year, and a new company, LAB Chrystolite Incorporated, has been created to operate the mines and facilities of the three companies and to co-ordinate sales.

At the same time, while working conditions and dust control at mines and mills have improved significantly in recent years, this has been in spite of, rather than because of government ownership. Progress in upgrading ACL's facilities has indeed been relatively slow. Here, as in the case of a number of other government enterprises, there is a potential conflict between government's role as owner of a profit-oriented enterprise and its responsibilities for the development and enforcement of public policy.

It is conceivable that the government's objective of increased processing could have been more effectively promoted through other means. It has been noted, for example, that in the early part of this century Ontario taxed or prohibited the unprocessed export of a number of resources — alloys, pulpwood, nickel ore — with varying degrees of success.[38] But the validity of the objective of further processing must itself be questioned. In most cases, if processing has not been undertaken by profit-maximizing investors, it is unlikely to represent the most desirable allocation of a country's or a region's scarce resources. Where employment or regional-development objectives are involved, government support should be provided to the most promising candidates, based on relevant benefits and costs; whether these firms are involved in processing should not be a relevant consideration. Moreover, as we discovered in the previous chapter, when governments fix on a narrow objective that pertains to a single industry consisting of a few large firms, the pursuit of this objective can entail serious contracting problems.

Conclusion

Governments have intervened in the nonrenewable sector to pursue a number of important objectives. But while the rationale for intervention may generally be accepted, the choice of instrument need not be. In particular, while public enterprise has become an important form of intervention in the area of nonrenewable resources, it has not proven itself to be a generally superior instrument for addressing the general policy issues that pertain to this sector. For the most part, objectives related to collecting rent, enhancing security of supply, and promoting economic development are most appropriately pursued through instruments other than public enterprise. Government firms may have advantages where the pursuit of these traditional objectives is complicated by conflicts with the industry or with other levels of government and where the objective of

increased local control is superimposed on government responsibilities for resource management. The latter factors were not unimportant in the 1960s and 1970s. In many cases, however, the factors that made government enterprise a particularly appealing form of intervention were the product of political pressures at a particular point in time.

8 Problems of Control

In this and the next chapter we explore problems in the management and control of public corporations and attempt to identify the characteristics of a desirable control regime. As with the management of public policy in general, this is not a topic that lends itself to tidy and well-defined solutions. Significant reforms have been introduced at the federal level and in some provinces in recent years, but compared with other countries Canada is still in the very early stages of experimentation with alternative regimes for the management and control of public corporations. European experience, which is much richer in this regard, highlights the complexity of the control problem. A recent review of developments in a number of western European countries found that considerable optimism has generally surrounded the introduction of a new approach, but this has invariably given way to disappointment. The "overriding impression" in the commentaries on European controls is "one of deep-rooted dissatisfaction both with the efficacy of controls and with the enterprises' behaviour."[1]

This is not to suggest that one should abandon hope of establishing an effective framework for the management and control of public corporations. By examining the effect of previous initiatives, applying the insights offered by the literature on management and organization, and learning what one can from the related problems confronting private-sector organizations, it is certainly possible to identify promising directions for reform.

Identifying Control Problems

Autonomy is, as we have noted, one of the defining characteristics of government enterprise. The resulting delegation of decision-making responsibilities leads to a problem of control. In the public, as in the private, sector there is a need for mechanisms to ensure that managers or agents act on behalf of owners or principals. In the private sector, various market mechanisms contribute to control. By contrast, in the public sector, control is achieved through various political and bureaucratic processes.

The control problem is commonly described as that arising when principals, first, have objectives that differ from those of agents and, second, lack complete information about the actions taken by agents. Accordingly, essential aspects of the control process include monitoring, or gathering and assessing information on, the activities of public firms and issuing directives to convey and enforce government demands. Clear direction and effective monitoring will contribute to the accountability of a public enterprise. True accountability requires not just that information be available on corporate performance but that one be able to establish the degree to which results are attributable to management.

Inadequacies in the management and control of Canadian public corporations have received considerable attention in recent years. In his 1976 Annual Report, the Auditor General detailed what he saw to be the dismal state of financial management control in federal Crown corporations.[2] The concerns of the Auditor General were later echoed by the Public Accounts Committee of Parliament[3] and by the Lambert Commission.[4] The government itself in its "Blue Paper" (1977),[5] recognized that, among other problems, the *Financial Administration Act* extended to only a small fraction of existing corporations and that there were "significant and unjustified inconsistencies" in the control of federal Crown corporations. These studies, along with various inquiries into the failures of specific federal corporations — the most recent being the 1983 hearings of the Public Accounts Committee on Canadair[6] — highlighted the deficiencies of Part VIII of the *Financial Administration Act* and provided the basis for the reforms that were introduced at the end of 1984. These are described later in this chapter.

While concerns at the provincial level have not been of the same order of magnitude, there has clearly been the view in most provinces that prevailing control regimes were subject to significant gaps. In Manitoba, the Task Force on Government Organization and Economy (1978) alerted the province to the "erosion of accountability with respect to the operations of some Crown corporations."[7] The Crown Investment Review Commission (the Wolff Commission, 1982), which examined the control framework in Saskatchewan, observed that "there is uncertainty about the specific purposes and goals of particular corporations."[8] As well, provincial auditors have brought to light a number of problems. In Ontario, for example, the 1981 Report of the Auditor noted that self-funded Crown

agencies were not required to provide the information necessary to assess their performance.[9] The 1983 Report of the Quebec Auditor was critical of the extensive powers of the subsidiaries of Quebec Crown corporations, which in some respects surpassed those of the parent.[10]

Our own studies lend support to the general concerns about the adequacy of the management and control structures that have been in place, but they also suggest that problems of control need careful interpretation. It is certainly clear that the results from the use of government enterprise have frequently been disappointing. It is not clear that these problems reflect a lack of government influence over corporate decisions. This interpretation is implicit in some of the criticisms of federal and provincial control arrangements. The typically broad mandate of public corporations and the absence of explicit powers of direction in the legislation pertaining to many enterprises have been taken as evidence of the limited government input into management decisions. Our studies, however, do not indicate that governments have lacked the means to influence corporate management. Nor do they suggest, as a general rule, that the inclination to intervene has been wanting. All governments have long had important levers of financial control at their disposal, as well as the power to appoint board members and chief corporate officers. Managers of public corporations cannot afford to be insensitive to government intentions, be they conveyed through public announcements, private discussions, or representations before the board of directors.[11]

In assessing the nature and extent of control problems it is important to take account of the potentially high degree of political involvement in corporate decisions. Problems that are seen to reflect bad management and a loss of control may in fact be a consequence of the imposition of new public-policy objectives. The Wolff Commission, while lamenting the lack of clear objectives for Saskatchewan public corporations, observed that "no Crown corporation escapes extensive and continuous political guidance."[12] In other words, the impression that broad legislative mandates have allowed management a high degree of autonomy can be very misleading.

Canadian governments have intervened more in the activities of some corporations than others. The Quebec government, for example, has involved itself more closely in the activities of la Société générale de financement (SGF) than in those of la Société québécoise d'exploration minière (SOQUEM). The federal government has a different relationship with VIA Rail and Cape Breton Development Corporation (DEVCO) — two highly subsidized corporations — than with CN and Air Canada, where the primacy of commercial objectives has been acknowledged. But even corporations that are considered to be relatively autonomous may be subject to certain potentially significant constraints. While CN and Air Canada have been required to provide transport services "on a commercial basis," they have had to do so employing a corporate strategy that is acceptable to the government of the day.

In interpreting the evidence available it is also necessary to appreciate that an absence of government intervention does not necessarily indicate a lack of political planning and direction. What it more likely indicates is a belief that managerial freedom is consistent with government-policy objectives. A public corporation will be accorded autonomy only so long as, and to the extent that, this is seen to coincide with the achievement of general government objectives.

Inadequate Information

While ministers have had access to the mechanisms necessary to influence corporate decision making and have not hesitated to intervene when it suited their purposes, the evidence suggests that governments have often lacked the information required to exercise meaningful control. Information problems have hindered the monitoring of enterprise performance, as well as attempts to evaluate the activities and role of public corporations.

In attempting to ensure that public corporations were pursuing their assigned objectives, and doing so efficiently, government monitors have run into a number of problems. In a few cases — notably that of Canadair — financial statements did not adequately alert the government to the corporations' difficult financial circumstances.[13] A more general problem is that the financial data on government-enterprise performance tend not to be very meaningful. It has been very difficult, for example, to assess the Urban Transportation Development Corporation (UTDC) of Ontario because of "accounting practices, the manner in which funds have been provided by the government to UTDC, the pressure on UTDC to contract with Ontario-based suppliers despite higher costs of so doing, and the financial commitments provided by the government of Ontario for sales made by UTDC outside of the province."[14]

The experience of UTDC, which has had public-policy, as well as commercial, responsibilities, is not unique. Most public corporations have a combination of commercial and social objectives. The latter may not be amenable to quantitative analysis. Indeed, the constraints on enterprise behaviour may even be difficult to identify, arising, as they often do, not from public

directives but from confidential discussions between ministers and the corporation management or board. The difficulty in assessing the performance of public corporations is a theme that runs through a number of our studies. In the case of Petro-Canada it was found, for example, that because the corporation has gone through a period of relatively rapid growth marked by acquisitions, one cannot draw meaningful comparisons on the basis of the traditional financial measures of performance.[15]

Where it is difficult to develop meaningful financial or other performance measures, it may be possible to ensure effective control through closer monitoring of the specific activities of public corporations. There are a number of formal and informal mechanisms that fulfil this role to some degree. Reports by federal or provincial auditors and legislative committee hearings have from time to time provided very useful insight into specific aspects of corporate activity. Notable contributions have been made by some committees, including the Select Committees to examine Ontario Hydro that existed between 1975 and 1981, and the B.C. Committee that was created under *The Crown Corporations Report Act* (1977) and existed until this legislation was repealed in 1983. More generally, though, the work of legislative committees has been substantially constrained because of limitations in time and resources and, in some cases, the dominance of government members. Less formal mechanisms of control have arisen out of the activities of individual members of parliament who have a strong interest in particular corporations, the investigations by public-interest groups, and the attention devoted to public corporations from time to time by the media. These have served to highlight various questionable aspects of public-enterprise behaviour and have sounded the alarm in some notable cases of serious mismanagement. Such informal controls, which are by their nature unsystematic and highly attuned to public opinion, have an important role, but they are clearly an unsatisfactory substitute for adequate monitoring mechanisms.

An additional problem arises where the difficulty of measuring corporate results leads to the use of various alternative indicators of corporate activity. While legislative committees, independent commissions, or individual investigations may be able to pinpoint sources of waste and inefficiency, they will have difficulty determining whether important opportunities have been passed up because of a lack of management initiative. The forgone gains resulting from management's reluctance to undertake creative activities may substantially exceed any more-apparent losses associated with, for example, consumption of management perquisites or the overmanning of certain activities. This is a general shortcoming of an approach geared to monitoring behaviour rather than outcomes, but it applies with particular force to more dynamic "entrepreneurial" industries. In these areas where the essential inputs are "perceptiveness, judgment, and timing,"[16] there is no substitute for the measurement of results. Evidence of success or failure, however, may take an extremely long time to materialize. An extreme example of this problem is provided by AECL; major questions about the performance of the corporation and the success of the CANDU-reactor system remain some 34 years after AECL's incorporation.[17]

Besides monitoring the effects of corporate decisions, governments engage in pre-decision control; that is, they examine proposed initiatives to satisfy themselves that corporate decisions will be in the public interest. Pre-decision control, however, is not a satisfactory substitute for information on the performance of public corporations. In the past, the main, and often the only, form of pre-decision control consisted of the review and approval of public corporations' annual capital budgets. These often depend on technical information, along with assumptions and forecasts that are inherently difficult to assess. Moreover, capital budgets have often been submitted in a form, and subject to a time frame, that did not allow for thorough assessment and review.

Inadequate Direction

The difficulty in developing an adequate performance-assessment system for public corporations can be linked to another more fundamental problem relating to the nature of the policy direction provided by governments. For the most part, governments have not articulated their expectations with sufficient precision to allow the establishment of clear performance standards. While the resulting ambiguity in roles and responsibilities is a problem, for purposes of control and accountability, it has also been a source of frustration for officials of public corporations; senior corporate officers have tended to regard the absence of precise corporate objectives as the major problem facing Canadian public corporations.[18] Moreover, because, as a consequence, the role of corporate boards has been ill-defined, these bodies have been much less effective than they might have been in reviewing and, where necessary, challenging management decisions. The hearings of the Public Accounts Committee on Canadair illustrate the problems that can arise when a board adopts a "passive role" in reaction to uncertainty over its responsibilities.[19]

An important consequence of the failure to define government objectives precisely is that public-enterprise managers are likely to be left with discretion over certain matters of public policy. By default they are

required to "interpret" for themselves the role and the public-policy objectives of the enterprise. Even where there is heavy ministerial intervention, government preferences with respect to all the relevant policy parameters will not always be adequately and appropriately conveyed; corporate managers will thereby be left to resolve issues requiring political input.

One might generally expect that the level and quality of noncommercial production will be quite different when the trade-offs between commercial and noncommercial activities are decided by corporate managers rather than by government ministers. Questions have been raised, for example, about the delegation to Ontario Hydro of the responsibility to promote energy conservation. This may conflict with its main responsibility to generate, transmit, distribute, and sell electric power; and, as discussed in Chapter 4, the commitment of the corporation has varied according to circumstances. It is not necessarily the case, however, that management will use its discretion to resolve the trade-off between activities in favour of increased commercial production and higher profits. It has been suggested, for example, that in the years prior to 1977, when Air Canada was still obliged to serve unprofitable destinations, it did so by offering fares and service comparable to those on its profitable routes. This was seen as a deliberate attempt by the airline to restrict profits and thereby forestall criticism from either customers or firms desiring regulatory changes that would allow them to compete on some of the airline's profitable routes.[20]

Controlling the "Controllers"

In a public, unlike a private, firm, corporate management is not the sole recipient of delegated power and not the only source of control problems. Consideration must also be given to the manner in which ministers, as well as the government officials to whom corporate managers report, exercise the authority they have been delegated.

While it is frequently individual ministers who in fact hold the shares in public corporations, it would be misleading to compare this surrogate shareholder with the owners of private firms. The rights and powers of ownership are conferred on ministers by the legislature, and in accepting them ministers assume an obligation to report on the manner in which these responsibilities are discharged. Accountability in this sense is, as the Lambert Commission maintained, a "fundamental prerequisite for preventing the abuse of delegated power."

Weaknesses in the arrangements through which ministers account to Parliament have been an issue of particular concern to the Auditor General and were an important theme of the Lambert Commission Report and the 1978 Report of the Standing Committee on Public Accounts. Recent federal reforms were designed in part to respond to the Auditor General's concern that the growing use of Crown corporations "so strained the capability of the existing accountability framework that Parliament may not be able to exercise its fundamental responsibility for overseeing receipts and expenditures of public funds."[21] Particular criticisms were directed at the creation of Crown corporations without adequate parliamentary review; inconsistencies and anomalies in the disclosure and use of parliamentary appropriations; the lack of information on specific objectives and priorities assigned to public corporations; and the provision of insufficient information for Parliament to ensure that legislative authorities have been complied with and that "value for money" has been received.

It is not difficult to find evidence to substantiate these concerns or similar ones raised at the provincial level. VIA Rail, for example, has existed since 1977 on the basis of a one-dollar appropriation and a brief Cabinet order outlining regulations for contracts between the transport minister, VIA Rail, and the railways. (As we noted in Chapter 5, a VIA Rail bill was introduced — but not passed — in the last session of Parliament.) In his 1983 Annual Report the Ontario Auditor noted that only 3 of 16 Crown agencies incorporated in Ontario during the three preceding fiscal years were the direct result of legislation; the others were incorporated under Ontario's *Business Corporations Act* or the *Canada Corporations Act*, or were established by regulations, and did not require approval of the legislature.[22] In that same report the Ontario Auditor also added his voice to that of his federal and provincial counterparts who were concerned about the establishment of subsidiary corporations without specific approval of the legislature.

Where an Act exists, corporate powers will inevitably be expressed in broad, general terms. The Ontario Energy Corporation, for example, has, among its objectives, "to explore for, produce, manufacture, buy, transport, refine, sell, and otherwise acquire, develop and deal in hydrocarbons and other forms of fuel and energy." The Société nationale de l'amiante (SNA) is required, among other things, to undertake "any activity of an industrial, manufacturing or commercial nature directly or indirectly relating to processing of asbestos fibre." Both of these are descriptions of permissible activities rather than statements of goals. While it is not unnatural or undesirable for legislation to be framed in these general terms, members of the legislature who have nothing to guide their deliberations except the corporation's Act will find it virtually impossible to come to any conclusion about corporate performance.

While the precise nature of appropriate reporting requirements may be open to question, previous experience clearly indicates the dangers that can arise where government accountability is weak or lacking. A study of a number of the more problematic corporations shows that government response to developments was often shaped by strong political commitments.[23] In some cases these commitments developed at an early stage, with the result that the initial investment proposal was not given the careful scrutiny it required. Political attachment to a project contributed in some instances to the establishment of inadequate monitoring mechanisms. And it coloured government's reading of the situation, so that in many of the problem-prone corporations difficulties were confronted only after evidence of dire circumstances was inescapable. While an appropriate system of accountability will not eliminate these types of situations or remove the possibility of errors and misjudgments, it does offer the prospect of detecting bad decisions early and substantially curtailing their consequences.

Responsible government requires not only that ministers be accountable to Parliament but also that they have effective control over the bureaucrats who have the day-to-day responsibility for monitoring the government's portfolio of investment holdings. Our focus in this context is on the departmental officials who are part of the machinery of government and whom we distinguish from the managers of public corporations. In some jurisdictions the demands relating to the control of a large government-enterprise sector have, of necessity, required that officials be accorded considerable independence. The concerns that may arise under these circumstances are analogous to those applying to the activities of regulatory agencies. The latter have been accused, for example, of engaging in various forms of organizational aggrandizement and of developing vested interests that compromise their decision-making role in certain matters. While the significance of these problems is difficult to determine, studies of problem-prone corporations suggest there is basis for the concern that departmental monitors can become advocates, and they provide an illustration of the substantial risks that may ensue.[24]

Federal and Provincial Control Systems

In this section we examine the control framework in place for public corporations at the federal level and in a number of provinces. Such an exercise is complicated by substantial differences in approach. A province such as Nova Scotia, for example, that has relatively few public corporations has been able to tailor its approach to the needs posed by particular enterprises. A more systematic approach is required in a province such as Saskatchewan that has long had a very substantial public-enterprise sector. At the same time, the comparatively small size of the public sector in Saskatchewan has facilitated direct ministerial involvement in corporate activities of a type that would not be possible in a larger jurisdiction such as Ontario. Moreover, even within a given jurisdiction there will tend to be significant differences in the requirements applying to different corporations. Most control systems tend to impose more onerous requirements on corporations that are dependent on subsidies than on those that are self-financing. There are differences, as well, that arise from the Acts establishing public corporations; most major, provincial public corporations have been incorporated pursuant to special legislation, and these individual Acts will help to define the precise nature of a corporation's reporting responsibilities.

In response to the reports cited earlier and to general concerns about the inadequate accountability of public corporations, significant reforms have been introduced in recent years in some jurisdictions. It would also appear that most governments view the control problem as an ongoing challenge; the review of monitoring arrangements and control mechanisms is continuing, and in some jurisdictions further reforms are being contemplated. In what follows, we look generally at the control regimes in a number of jurisdictions and then focus on some interesting features of the systems operating in Saskatchewan and Ontario, and at the federal level.

An Overview

Figure 8-1 provides an overview of the control arrangements within seven jurisdictions. In all cases, corporations report to the legislature through a designated minister and are subject to the direction and control of the relevant minister and one or more central agencies. The latter will include the Finance Department, which generally oversees and approves corporate borrowings; but in most jurisdictions it will also include a central group with responsibility for coordinating the government's policies towards Crown corporations. The most developed system of central control exists in Saskatchewan, where a holding company — now called the Crown Management Board (CMB) — oversees the major commercial enterprises (noncommercial "Crowns" report to Treasury Board). Manitoba recently established a department devoted exclusively to public corporations (the only government to do so): the Department of Crown Investment acts as a liaison with the province's public corporations and provides analytical support for Cabinet — particularly the latter's Economic and Resource Investment Committee,

Figure 8-1

Government-Enterprise Control: An Overview of Seven Jurisdictions

	British Columbia	Saskatchewan	Manitoba	Ontario	Quebec	Nova Scotia	Canada
Control specified in Crown corporation legislation		*Crown Corporation Act*					*Financial Administration Act* - Part XII
Control resides with: - designated minister - central agency	X Ministry of Finance	X Crown Management Board	X Department of Crown Investments	X Management Board Ministry of Treasury and Economics	X Ministry of Finance Treasury Board	X Management Board Ministry of Finance	X Treasury Board
Capital budget - approval required - tabled in legislature	**[1]	X	X	X	A few[2]	X[2]	X Summary tabled
Operating budget - general approval required - approval required for revenue-dependent corporations	**[1] X	X	A few[4]	X X	A few[2] X	X[2] X[3]	X
Borrowings: approval required, direct borrowing[5]	X	X	X	X	X	X	X
Corporate plan: - approval required - tabled in legislature		X	At developmental stage	X[6]	X Only for Hydro-Québec[7]	**[3]	X Summary tabled

Chief executive officer: remuneration set by board of directors	X (According to Treasury Board directives)	Reviewed by CMB	Proposed by board	X (According to Management Board guidelines)		Sometimes	
Board of directors:							
- may include minister	X	X	Only one GE			X	
- may include public servants	X	X	X	X	X	X	X
Audit							
- private-sector auditor	Sometimes	Most	A minority[8]	Sometimes[9]	Sometimes	Sometimes	Corporations in Part II of Schedule C
- comprehensive audit required							X
Main legislative committees	Public Accounts Committee	- Crown Corporations Committee - Public Accounts Committee	- Committee on Economic Development - Public Utilities and Natural Resources Committee - Agricultural Committee	- Public Accounts Committee - Procedural Affairs Committee - Select Committee on Ontario Hydro	- Standing Committees	- Public Accounts Committee - Industry Committee	- Public Accounts Committee - Standing Committees

X Yes.

1 Approval might be considered to be implicit in the presence of the minister or the board of directors.

2 A few self-financing corporations, Loto-Québec and Société des alcools du Québec, must submit both their capital and operating budgets for approval.

3 Capital and operating budgets are examined by Management Board as part of the overall planning and budgetary process within the province. While there is no general requirement for the submission of corporate plans, the planning strategy of enterprises such as Sydney Steel and Nova Scotia Power Corporation are subject to regular and thorough review.

4 The budgets of the Manitoba Agricultural Credit Corporation and the Manitoba Crop Insurance Corporation are examined in the context of the government's review of the budget of the Department of Agriculture.

5 Approval may involve initial authorization, which will permit the corporation to borrow directly within certain limits. Corporations in Saskatchewan, Manitoba, Quebec, and Nova Scotia need not seek approval when they go to the capital market, so long as the borrowing is within approved limits and they do not require an explicit government guarantee.

6 This is now being made a general requirement for all commercially oriented agencies in Ontario. While the corporate plan is not tabled, the Memorandum of Understanding is.

7 Hydro-Québec's capital budget is generally examined when the legislature reviews the corporation's request for rate increases.

8 Corporations that are privately audited are, moreover, subject to an "overview audit" by the Provincial Auditor.

9 Corporations receiving more than 50 per cent of their required revenue from, or generating significant revenues for, the consolidated revenue fund are expected to be audited by the Provincial Auditor.

which bears the main responsibility for Manitoba's commercial Crown corporations. In Ontario, the Management Board — a committee of Cabinet — establishes the general rules for the administration of the province's Crown agencies. A committee of the same name in Nova Scotia is the main forum there for Cabinet consideration of corporate submissions. At the federal level, Treasury Board is the main, central decision-making agency, although here, as in other jurisdictions, the Finance Department often plays an influential role.

In most jurisdictions, the system of direction and control is not specified in general legislation. The exceptions are at the federal level, where Part XII of the *Financial Administration Act* provides an overall framework of control, and in Saskatchewan, where the *Crown Corporations Act* specifies the nature of the relationship between the government and its corporate entities. Administrative guidelines exist in other jurisdictions, and these can be quite detailed. The Ontario Manual of Administration classifies all of the province's extradepartmental agencies into one of four schedules and establishes specific requirements for the corporations in each category. Administrative requirements, however, could be overridden by the provisions of any statute.[25]

For all governments, an important source of influence has been their control over corporate financing decisions. Capital budgets are submitted by most corporations. All federal corporations, all corporations in Saskatchewan, Manitoba, and Ontario, and most enterprises in Nova Scotia must receive formal approval of their capital budgets. The operating budgets of self-financing corporations do not, as a rule, require formal approval, although in a number of cases these must be submitted "for information purposes." Corporations dependent on appropriations from the consolidated revenue fund must receive approval of their operating budgets, which will subsequently form part of the "estimates" that are tabled in the legislature.

The other aspect of financial control comes from requirements with respect to borrowing. Where governments allow their corporations to borrow directly, this is generally subject to predetermined ceilings (which may be specified in legislation), and even then, the approval of the Minister of Finance and possibly other members of Cabinet may be required. Governments differ in their attitude towards direct borrowing by public corporations. While a few governments have encouraged direct borrowing, most prefer a centralized approach that is seen to allow for improved coordination and control of total public borrowing. In British Columbia, the Minister of Finance acts as fiscal agent for the major corporations and satisfies their borrowing requirements as these become established under "Fiscal Agency Agreements."

In recent years increasing attention has been given to the concept of corporate planning. Under Bill C-24, federal corporations are required to submit a corporate plan annually, specifying: general corporate purposes; the corporation's objectives over the planning period and "the strategy the corporation intends to employ to achieve them"; and the corporation's expected performance over the coming year. The corporate plan is submitted with the capital budget and requires Governor-in-Council approval. In Saskatchewan corporations under the jurisdiction of the Crown Management Board must submit a strategic plan, along with their capital budget, for Board approval. The use of corporate plans is slowly being introduced in Manitoba under the guidance of the Department of Crown Investments, but as yet this is required of only a few provincial corporations. In Ontario, some commercial corporations have long had to submit a corporate plan, but this is now to become a general requirement. Quebec commercial corporations have been required to submit corporate plans ("plans de développement") for a number of years; but the process is not centralized, and the attention devoted to specifying the format of the plan and to reviewing corporate submissions varies across ministries.

The plan prepared by the corporation should be consistent with government priorities and expectations. The latter can be conveyed in a number of ways. The federal government can resort to its power to issue formal directives. Directives can be issued to corporations in other jurisdictions if it is permitted under their statute or if the enterprise has been incorporated pursuant to companies legislation and the minister thereby has the directive power of a sole shareholder. All governments, however, can utilize their control over financing to influence corporate decisions; borrowing and budgetary approval can be made subject to particular terms, and funds can be earmarked for specific projects. In addition, and most important, ministers can communicate informally with corporate management and directors. The latter is facilitated by the relationship of the board to the government. In all jurisdictions corporate directors are appointed by Cabinet. Ministers are themselves board members in British Columbia and Saskatchewan, and in other jurisdictions public servants often sit on the board as government representatives.

A potentially important contribution to the overall system of control in all jurisdictions comes from the surveillance undertaken by those outside government — particularly corporate auditors, and federal and provincial legislatures. In many jurisdictions there have been efforts to extend the scope of audits so that it

includes a more general examination of management information systems and practices. But while many provincial enterprises are regularly subject to "value-for-money" audits (a leading example being Ontario Hydro), this is as yet a legislated requirement only at the federal level.[26]

While public corporations are ultimately accountable to legislatures and the latter have a number of specific responsibilities — including passage of the legislation initially creating public corporations and approval of the appropriations for financially dependent corporations — serious legislative scrutiny of corporation activities, to the extent that it does take place, occurs primarily within committees. Saskatchewan is now the only legislature to have a permanent committee on Crown corporations. From 1977 to 1983, however, British Columbia had an active and influential Select Standing Committee on Crown Corporations. In-depth reviews of B.C. Hydro and Power Authority, B.C. Railway, B.C. Ferry Corporation, and the Insurance Corporation of British Columbia were conducted during the Committee's six-year life. In other provinces, standing committees of the legislature, generally including the Public Accounts Committee, will examine the Auditor's Report and periodically undertake detailed investigations of the activities of particular corporations. In Ontario, Select Committees have played an active role in the past in vetting Ontario Hydro, and one has recently been re-established. Important contributions have also been made by Ontario's Public Accounts and Procedural Affairs committees. In Manitoba, the annual reports of public corporations are automatically referred to the Committee on Economic Development or the Public Utilities and Natural Resources Committee. The designated minister, the chairman of the board, and the chief executive officer of the major corporations regularly appear before these committees. In provinces where legislative committees have played a more limited role, efforts are still made to focus on the more important corporations. There have, for example, been regular hearings on Hydro-Québec and on major Nova Scotia corporations such as Sysco and Nova Scotia Power Corporation.

Saskatchewan

The Saskatchewan system incorporates a number of interesting features, including a general *Crown Corporations Act*, a legislative committee on Crown corporations, and a Crown holding company. It is, however, the last of these and the province's general attempt to coordinate its approach to the direction and control of public corporations that are of particular interest.

The holding corporation — now called the Crown Management Board (CMB) — has gone through several incarnations, dating back to the mid-1940s, when it was known as the Government Finance Office. The CMB is not a holding corporation in the same sense as, for example, the CDIC or European holding companies such as Statsforetag. It is chaired by a minister; most of its members are ministers (all were ministers until very recently); and it functions essentially as a committee of Cabinet. The CMB and its substantial support staff are responsible for reviewing and approving capital budgets and strategic plans, and for monitoring the ongoing performance of the province's commercial corporations. Through the strategic planning process, the CMB seeks to review systematically the mandate and role of the corporations under its supervision. The CMB provides ongoing policy direction to its corporations and generally helps to select the chief executive officer and determine his remuneration.

The centralized review process in Saskatchewan facilitates management of the public debt. Public corporations go to the market directly only to meet their short-term and interim financing needs. The smaller corporations generally borrow through the Crown Management Board, while the larger ones go through the Department of Finance. In reviewing capital submissions, the CMB will consider the implications for the province's financial requirements, and it may consult informally the Department of Finance. The latter will review total spending and ensure that the resulting financing requirements can be reasonably accommodated by the province.

In the Saskatchewan system, there are very strong and direct links between Cabinet and the provincial corporations. In giving direction, the CMB will be guided by any decisions taken by a Cabinet or a Cabinet planning committee. Potentially sensitive matters and major capital investment projects will in turn be referred by CMB to full Cabinet. At the same time, ministers can use their position as members of the boards of public corporations to transmit policy directives directly to the corporation.

There has been concern that Saskatchewan corporations may be subject to too much direction. The Wolff Commission found that the Crown Investments Corporation (the predecessor to the CMB) often went beyond broad policy direction into matters of day-to-day management. One CEO was of the view that "CIC was running the show and (the) board was required to rubberstamp their actions."[27] The government has been sensitive to these concerns and was attempting to "de-politicize" the Crown sector. An initial response was to appoint private-sector chairmen for each of the boards; ministers who had previously filled this role are now generally vice-chairmen. The government was also exploring the use of measurement systems that would

serve to highlight better the costs of the corporations' public-policy requirements.

Ontario

In Ontario a number of interesting mechanisms have been introduced in recent years. Management Board, which is a committee of Cabinet and (along with the Ministry of Treasury and Economics) the relevant central agency, functions very differently from the Saskatchewan CMB. The Ontario Management Board is concerned primarily with establishing the structures and roles for the administration of Ontario agencies. Ontario corporations generally submit their capital and operating budgets to their designated ministers for approval, not to the Management Board. In establishing an administrative framework, moreover, Management Board has attempted to address the needs of all extradepartmental agencies. The Ontario Manual of Administration is an ambitious attempt to classify all Ontario agencies and established procedural rules appropriate to the agencies in each category or schedule.

An important component of the control regime in Ontario has been what are termed "Memoranda of Understanding." Prepared by the corporation in consultation with the appropriate ministry, these were intended to specify "objectives, priorities, and performance expectations," as well as to clarify roles and responsibilities, and specify administrative procedures. The Memoranda often established corporate planning requirements and specified borrowing authorities and approval procedures. A recent report found that the Memoranda were less useful than initially anticipated. They have been described as "cautious" and "conservative" documents that generally did not indicate precise objectives and clear priorities.[28]

In recent years greater importance has been given to the preparation of multiyear corporate plans. Schedule II agencies (self-financing, commercially oriented) will now be required to submit a corporate plan for approval of the minister responsible and, where necessary, the Provincial Treasurer and/or Management Board. The plan is required, among other things, to identify the public-policy objectives being pursued and to specify appropriate performance criteria. The corporate plan will not be tabled in the legislature.

Ontario has introduced a process of "sunset review," which is mandatory for all agencies established after March 12, 1980. The review, designed to determine whether an agency continues to fulfil a useful role, is undertaken by the designated ministry and then considered by the appropriate Cabinet committee. No Schedule II agency has yet been subject to the process, although over 100 agencies within other schedules have undergone review; roughly 20 per cent of these have been terminated, and a few have been consolidated with other agencies.

The role of Ontario agencies is also subject to review by the Procedural Affairs Committee of the legislature. This standing committee, established in 1977, had released 10 reports by the end of 1985 and had reviewed the activities of 69 Ontario agencies.

Federal Jurisdiction

Through its recent reforms the federal government has attempted to establish a comprehensive control and accountability framework. Part XII of the *Financial Administration Act*, which applies to all but eight Crown corporations[29] and their wholly owned subsidiaries, provides the government with the ability to issue directives, establishes a number of significant new control mechanisms, and introduces new reporting requirements to increase the involvement of Parliament in the monitoring of Crown corporations.

The Act strengthens government control over the size of the public-enterprise sector by requiring Cabinet approval before a corporation can acquire or divest itself of a subsidiary. There is an attempt to clarify the role of Crown corporation directors; under the new provisions, directors of public corporations, like their private-sector counterparts, who are subject to the Canada *Business Corporations Act*, must always consider "the best interests of the corporation." The requirement for annual approval of a corporate plan provides an opportunity for government to review the objectives of a corporation and to consider the strategy being adopted to achieve those objectives. The corporate plan is submitted with the capital budget for the upcoming financial year, and both are reviewed by the minister responsible, along in some cases with the Minister of Finance. Approval is required by Cabinet in the case of the plan and by Treasury Board in the case of the capital budget.

Under the revised *Financial Administration Act*, federal public enterprises are classified according to whether they are dependent upon parliamentary appropriations or are self-financing. The former, which fall under Part I of Schedule C, must receive approval for their operating, as well as their capital, budgets. And while the self-financing corporations in Part II of Schedule C may be audited by private firms, corporations in Part I must utilize the services of the Auditor General. One of the new requirements in the legislation is for an external or special examination of management systems and practices to be undertaken at least once every five years. For corporations in Part II, the

examiner's report will be made only to the board of directors; for those in Part I, the examiner has the right to bring significant deficiencies to the attention of the minister and, if necessary, Parliament.

The new legislation incorporates a number of features designed to enhance the role of Parliament. The approval of Parliament is required for the establishment of a new Crown corporation, even where this is achieved through general companies legislation. Summaries of all corporate plans and capital budgets are now tabled in Parliament. Government directives must also be tabled. And the annual reports, which are to be tabled in Parliament and automatically referred to the appropriate standing committee, must include a statement on the extent to which the parent and its wholly owned subsidiaries met their objectives for the financial year.

Guidelines for Reform

Striking the Right Balance

The fundamental challenge in structuring a control regime is to establish an appropriate balance between the competing requirements for managerial autonomy and public control. Excessive control will undermine the independent status of the corporation and dissipate the benefits that are available from a delegation of decision-making responsibilities. Inadequate direction and control, on the other hand, will jeopardize the role and usefulness of public corporations as instruments of public policy. The challenge of steering between the Scylla of inadequate commercial freedom and the Charybdis of weak public direction and control has confronted every country that has a significant government-enterprise sector.

The responses to this challenge have followed different routes. A number of the more significant initiatives have involved efforts to delineate more clearly the relative responsibilities of government, and of the management and board of the public enterprise. The "contrats de programme" that the French government negotiated with its railway enterprise, the Société nationale des chemins de fer français (SNCF), in 1969 and its electricity corporation, Électricité de France (EDF), in 1970, for example, attempted to specify, in detail, corporate objectives for a five-year period, constraints on the enterprise, and the amount of government subsidization. The 1978 White Paper issued in the United Kingdom illustrates another variation to an approach based on negotiated targets. In this case, there was an attempt to incorporate the relevant aspects of public-enterprise performance in a framework based on financial performance, a required rate of return on new investment, and a variety of nonfinancial performance indicators. The establishment of such comprehensive agreements has proven to be time-consuming and difficult, and in the U.K. case the system was subject to some internal conflicts and inconsistencies.[30] Negotiated arrangements of this sort are also vulnerable to major changes in the operating environment, which may either undermine the assumptions underlying the agreement or give rise to important new public-policy considerations.

Formalized agreements also tend, to some extent, to blur the distinction between government enterprise and alternative instruments of public policy. It may be that the factors that made it difficult for the government to establish a contractual arrangement with a private firm would similarly complicate efforts to work out an arrangement with a public corporation. A policy that involves compensating the public firm for its noncommercial obligations may run into problems, for example, because of the difficulty of isolating the costs attributable to the relevant activities. An advantage of government enterprise is that it generally allows for the possibility of a solution in such cases where it would be costly and difficult for two independent parties to reach a satisfactory agreement.

A quite different avenue of approach takes as its starting point the perceived desire of governments for a fluid arrangement, characterized by vague statements of government-enterprise objectives and informal interventions by ministers into the activities of public corporations. This type of highly flexible arrangement is seen as necessary to maximize the usefulness of government enterprise to policy makers. Programs such as the French "contrats," it is maintained, substantially reduce the advantages of public enterprise as an instrument of public policy.

To assess this argument it is useful to return to our discussion in Chapter 3, where we considered the advantages of autonomy. An open-ended arrangement, with substantial ministerial intervention, will threaten the independence that distinguishes government corporations from government departments. This will be desirable only where the conditions for the establishment of a quasi-autonomous entity cannot be met. Following on our discussion in Chapter 3, this will be the case either where objectives cannot be clearly defined or where there is an ongoing need for a high degree of policy direction. In these circumstances, the delegation of decision-making responsibilities will generally involve costs that exceed any corresponding advantages in terms of reduced demands on ministers or freedom from bureaucratic rules and restrictions. While the usual answer in such cases is to opt for the use of a government department, this may not be feasible or desirable if the relevant public-policy outputs are being produced

jointly with commercial outputs that do not fit into a departmental structure.

What this suggests is not that flexible arrangements are generally desirable but that greater ministerial freedom (and reduced corporate autonomy) may be desirable, in certain very particular circumstances. It does not appear from our case studies that such circumstances exist to any significant degree. Most public-policy objectives are amenable to precise specification. While government direction is always necessary, most public-policy activities do entail a discrete set of operating and administrative decisions. Where governments have refused to delegate authority to the directors of their enterprises, this can only rarely be attributed to the characteristics of the public-policy activities being pursued.

Our review of the evidence suggests that the main problem has not been the reluctance of governments to utilize flexible arrangements in those circumstances where they are justified but, rather, their failure to recognize the costs of such a system. By opting for flexibility, governments have forgone the gains from delegation in many situations where this represented an efficient response to the problems of administration. There have been other costs. The flip side of the increase in ministerial freedom is the reduction in the opportunity for parliamentary input into the setting of corporate objectives. More important, failure to table corporate objectives undermines the legislature's ability to assess corporate performance. Moreover, in areas where ministerial guidance has been lacking, unelected officials have been left with wide discretion to define specific public-policy objectives.

Both of the approaches we have described have serious disadvantages. Neither a formal contractual arrangement similar to that which would apply with a private firm nor a fluid arrangement that allows for ministerial involvement not unlike that which might exist with a government department provides an appropriate model of government/public-enterprise relations. What is required is a balanced approach that avoids the worst features of these extremes but, at the same time, takes account of the lessons these models have to offer. Specifically, an appropriate arrangement must give expression to the need to provide corporate management and boards with true authority and responsibility. This conclusion is strongly reinforced by the evidence from our case studies: an inadequate definition of roles and responsibilities has underlain many of the problems that were cited in our review. It is impractical, however, to attempt to safeguard corporate autonomy by establishing elaborate structures that restrict ministerial freedom to give direction to public corporations or that would require governments to engage in complex negotiations with their corporate entities. The experience of European governments provides a useful warning of the risks to which overly elaborate and ambitious structures are subject.

Implications for Direction and Control

What does our call for a "balanced approach" imply in terms of specific mechanisms of direction and control? To answer this question, it is useful to consider the alternative forms of government intervention, as indicated in Figure 8-2.

Figure 8-2

Forms of Intervention

	Forms of intervention		
	Less-intrusive	More-intrusive	
	A	B	C
Direction by:	setting objectives	providing instructions	pre-decision monitoring
Control by:	post-decision monitoring	rules and regulations	pre-decision monitoring

The degree of corporate autonomy will be determined by both the form and the frequency of government intervention. Where governments provide direction through the establishment of corporate objectives and exercise control through the monitoring of performance (i.e., use the mechanisms in column A), the process of intervention will contribute to the clear identification of corporate responsibilities. The management and board can accordingly be held to account for the fulfilment of those responsibilities. When, in addition, governments intervene infrequently, and objectives are highly stable, corporations will tend to enjoy a substantial degree of autonomy. The mechanisms in columns B and C will impinge to varying degrees on corporate autonomy. The discretion of the corporation's management and board is obviously reduced to the extent that these agents are subject to ongoing ministerial instructions or guidance on how to proceed, or not to proceed, and insofar as decisions with respect to such matters as the purchase of materials and supplies, the setting of prices, and the negotiation of wages and work practices are subject to established rules and regulations (column B). Corporate autonomy is also reduced where corporate decisions must be submitted to the government for review and approval (column C). The greater

the reliance on mechanisms in columns B and C, the more blurred becomes the distinction between government corporations and government departments.

In a system with ill-defined roles and responsibilities, incentives for a high level of performance are generally weakened. This applies to the management and board of the public enterprise, who because of the ambiguity are less clearly implicated in either the success or failure of the enterprise. It also applies to the ministers and bureaucrats who have responsibility for overseeing corporate performance. With roles poorly defined, these two actors cannot dissociate themselves from the activities of the enterprises they are required to monitor. The resulting conflict does not contribute to either effective monitoring or responsible management.

An appropriate framework must take account of these potential problems but also give recognition to the practical limitations on corporate autonomy. Governments cannot, and should not, be limited in terms of their frequency of intervention, although this will affect the degree of corporate autonomy. Pre-decision monitoring can make it very difficult to hold the corporation's management and board responsible for performance outcomes, but this mechanism cannot be excluded. In circumstances where there are particularly difficult problems in specifying objectives or in undertaking effective post-decision monitoring, pre-decision monitoring may provide the appropriate solution. From our examination, however, the main problem is not that corporations have too much, but rather that they have too little, autonomy. There is a need to emphasize those mechanisms which will allow the benefits of government enterprise as a distinct organizational form to be more fully realized.

In terms of *direction*, this suggests that the focus should be on a clear specification of corporate objectives. It is necessary to articulate more clearly the rules and responsibilities. A meaningful articulation of corporate responsibilities must come to terms with the tension that exists between the corporation's role as a business enterprise and its role as an instrument of public policy. Noncommercial responsibilities will often be viewed by corporate management as constraints that limit the resources that can be devoted to profit-oriented activities. Accordingly, it is necessary that governments attempt to set out clearly their requirements and expectations, with due attention to both the quantitative and qualitative dimensions of service. Beyond this, Cabinet ministers must come to appreciate the importance of allowing corporation management and boards adequate freedom to pursue the relevant objectives. The stable framework that is required in this regard cannot be legislated, but it can be promoted by appropriate institutional arrangements. Important among these is the requirement that corporate objectives, along with any ministerial directive affecting either the objectives or a corporation's ability to attain those objectives, be tabled in the legislature. In other words, improved ministerial accountability will contribute to more effective public-enterprise accountability. Another essential requirement is a board of directors who are prepared to use their influence to enforce procedural rules and to protect the decision-making authority of the corporation. We shall look more closely at the role of the board and at the contribution to be made by other institutions to an improved environment in the following chapter.

In terms of *control*, the general objective should be to establish an arrangement that is efficient in the sense of minimizing the sums of two sets of costs: the costs associated with corporate activities that diverge from the public interest because of inadequate control; and the administrative, compliance, and time costs associated with the operation of the control system itself. The design of an efficient monitoring arrangement therefore involves a weighing of possible control losses against the costs of implementing available management and control remedies.

The establishment of more precise objectives will facilitate the monitoring of enterprise activities, but the measurement and assessment of performance will nonetheless be difficult in many circumstances. The nature and degree of monitoring that are appropriate, based on relative costs and benefits, will vary considerably between corporations. The optimal control arrangement will be quite different for an enterprise that is engaged in essentially commercial activities in competitive markets than for a government-enterprise monopoly; and the requirements will differ still for corporations that have major noncommercial responsibilities. The optimal control mechanism will also depend on the nature of the corporate decision. While post-decision or performance monitoring will be appropriate in most circumstances, in some situations this will not create the appropriate incentive for efficient management performance, and pre-decision monitoring may also be necessary. This is relevant primarily to capital investment decisions, which we discuss more fully in the next chapter.

The control mechanisms identified in Figure 8-2 apply to the problem that the government, as principal, faces in controlling its agents. The broader challenge, however, is to develop an information and control system that will contribute to policy formulation as well as policy administration. The problem of establishing a management system to integrate the information on government enterprise into the policy-making process is not unrelated to the narrower principal/agent problem. Indeed, the main safeguard on the costs of

employing government enterprise may very well come not from improved monitoring but from more thorough evaluation. The clarification of corporate objectives facilitates evaluation. This opportunity needs to be pursued through a process for the systematic evaluation of the noncommercial activities of public corporations when they are initially proposed, and on a periodic basis thereafter. The evaluation process should be directed at identifying the costs associated with specific activities (or bundles of activities) and at amplifying the policy choices that are available. Ministers must be in a position to weigh the noncommercial activities of public firms against competing policy objectives and to compare the costs of government enterprise with those of alternative instruments that could be used to achieve the same public-policy objective.

Continuing the Process of Reform

Through recent reforms, federal and provincial governments have focused on some notable deficiencies in the arrangements governing their relationship with their corporate entities. Based on the considerations outlined above, however, the reform process is far from complete. Governments in all the jurisdictions that we have examined have some distance to go in structuring a management and control framework that will allow them to realize fully the advantages of this instrument of public policy.

The reform measures that have been introduced or that are being initiated are significant in the context of a number of the problems cited at the beginning of this chapter. In most jurisdictions there is now an appreciation of the need to develop measures that relate performance to corporate objectives. The problems of developing meaningful measures for corporations that are engaged in a mix of commercial and noncommercial activities, and may be subject to a variety of preferences, are far from being solved, but they are at least receiving serious attention in some jurisdictions. And at the federal level in particular, there has been considerable improvement in the information made available to Parliament on the activities of public corporations.

The establishment of more elaborate processes for the control and direction, however, has not led to a parallel strengthening of systems of accountability. For the most part, corporate objectives have still not been identified with the precision that is necessary, and corporate management and boards have not been accorded the freedom of action that is required for effective accountability. Much more thought must be given to understanding what it is we wish particular entities to achieve and to resolving the conflicts that may be inherent in those demands before corporate objectives can provide the necessary anchor for a system of accountability.

To remedy these deficiencies, there is a need to continue the process of reform that has commenced in most jurisdictions. The changes that have been introduced to this point in time stop short of what is required to establish an appropriate relationship between governments and their corporate entities. Theoretical considerations, along with evidence gained from the experience of various jurisdictions, strongly suggest that an appropriate relationship must be based on an effective system of accountability. This would in turn involve a clearer and more rational division of responsibilities. As distinct from present arrangements, there would be less government involvement in some areas of public-enterprise decision making — namely, those requiring managerial expertise, where the results are amenable to performance assessment. And there would be a greater review and debate of other aspects of government-enterprise activity — those relating to public-policy objectives and requiring political judgments.

In extending recent reforms, there would be emphasis on *precisely specifying objectives* and on setting in place the necessary *institutional supports* for an effective system of accountability. An appropriate regime would also involve some related reforms in the *monitoring* and *evaluation* of public corporations.

The implementation of these reforms is not without certain theoretical and practical complications. We shall consider those issues and elaborate on our proposals for new control arrangements in the next chapter.

9 Governing Government Enterprise

Government corporations derive their raison d'être from their role as instruments of public policy; but they are unique instruments, and they require an organizational structure that is suited to their mix of commercial and noncommercial pursuits. In developing proposals for reform we have been sensitive to the need to preserve the distinctive characteristics of this instrument. There is a role to be fulfilled by an organization that is free from many of the confining rules and regulations applied to government departments but that allows for a type and degree of policy direction that could be very difficult to achieve under an arrangement with a private firm.

In what follows we elaborate on this perspective and set out our specific recommendations. We begin by examining the implications of the basic considerations raised in the previous chapter. Our main recommendations in terms of appropriate control mechanisms are described in the second and third sections of this chapter. There are some special problems that apply where public corporations are monopolies or mixed enterprises; these problems, along with the control issues raised by subsidiaries, are considered in the fourth section. In attempting to structure an overall framework that will facilitate the management and control of government corporations, it is also necessary to consider the nature and effect of the many privileges and immunities that have been conferred on these entities; the concerns that arise as a consequence of the special legal status of public corporations are examined in the final section of the chapter.

Needed Reforms

Following the discussion in Chapter 8, it is possible to sketch the basic features of a control system that is geared to clarifying responsibilities and promoting accountability. Within this system, the government's role would be to establish objectives and to monitor corporate performance, to ensure that the authority delegated to the corporation's management and board is being appropriately exercised. The corporation's directors and management would be responsible for managing the operations of the enterprise and determining how the specified objectives could best be achieved.

The specific demarcation of responsibilities within this system would be determined by the nature of the particular function. Where technical information or expertise is required, the function would be delegated to the corporate management and board; where the task involves a judgment about public preferences and is thereby linked to the policy-making process, it would remain with government. With respect to the commercial activities of the firm, there would therefore be no reason for government direction, except perhaps to clarify the acceptable boundaries of corporate activity. Since commercial activities depend on what we have termed "technical" decisions, the role of the government would be mainly confined to ensuring that these activities are being appropriately performed by the existing management and board.

The noncommercial functions of the corporation would be subject to much greater involvement. Policy considerations enter not only into the establishment of the corporation's noncommercial roles but also into the determination of specific aspects of the noncommercial services to be provided. There is therefore generally a need for a very precise definition of the corporation's noncommercial responsibilities. There is, of course, also a need for government intervention, as changes in circumstance necessitate a reformulation or redefinition of corporate objectives. Since capital spending intended to help the corporation achieve its noncommercial objectives cannot be assessed without judging the value of the expected public benefits, this is another decision that requires the policy maker's input.

We noted in Chapter 8 that a structure based on the establishment of objectives and the monitoring of corporate performance is likely to encounter problems in some circumstances. Introducing adjustments to the basic structure outlined above will necessarily do some harm to the principle of accountability that the system was designed to promote. The challenge is to incorporate needed modifications in such a way that the damage is minimal.

In the case of commercial investment decisions, for example, we have already suggested that some pre-decision control is desirable. But it is possible to devise an approach that is sensitive to the fact that this is a legitimate area of management decision making. Although pre-decision monitoring has allowed the government to influence operating and management decisions, it can in fact be a less intrusive mechanism

that poses less of a threat to corporate autonomy. Private firms, for example, often require the approval of lenders before they can proceed with a proposed capital investment; no one would argue that this type of pre-decision monitoring makes the corporation's decision makers any less responsible for the results of the investment. In devising a pre-decision monitoring system for the commercial investments of public corporations, we have tried to adopt an approach that does not significantly undermine the authority of corporate decision makers.

More generally, a management and control structure for government enterprise that will contribute to the realization of the advantages of this instrument must be supported by four main pillars:

- clear specification of corporate responsibilities;
- institutions to promote ministerial accountability;
- an effective system for monitoring corporate performance; and
- a process for the systematic evaluation and re-evaluation of corporate objectives.

The first two pillars provide the basis for an appropriate relationship between the government and its corporate entity. The corporation's responsibilities must, in our view, be clearly defined, and the management and board of the corporation must be accorded the discretion that is necessary for them to be answerable for the performance of the assigned responsibilities. These conditions are essential for an effective system of accountability, and they are prerequisites for an environment that inspires good management. They require the existence of independent institutions to counter the pressures that could threaten corporate autonomy. Similarly, ministers must be accountable for the guidance and direction they provide, and to this end, certain guidelines must govern the dealings between government representatives and corporate officials.

While it is desirable to allow corporate management and boards wide discretion with respect to those decisions where they have a comparative advantage in terms of information or expertise, it is also important to strengthen the incentives of these agents for reliable and efficient performance. The latter can be achieved by a monitoring system that facilitates comparisons and includes suitable reward and penalty mechanisms. While the emphasis should be on post-decision monitoring, capital investment decisions will continue to require some form of approval.

A successful management and control system must have "feedback mechanisms," and these are an important feature of the regime we are proposing. In the proposed framework, the specification of corporate objectives facilitates monitoring and evaluation, and the latter may in turn lead to a modification of corporate responsibilities. A proper evaluation system — the last pillar supporting our structure — will establish the tolerable level of costs for public-enterprise activities, taking account both of political preferences and of the alternative instruments that are available to pursue particular objectives. This should serve as an important check on the costs associated with the use of this instrument.

The approach that we believe should govern the relationship between governments and their enterprises is aptly described by Lord Macaulay's dictum "to choose wisely and confide liberally." While existing control regimes incorporate some elements of the structure we have described, they generally do not provide corporate decision makers with the degree of discretion with respect to "technical" matters that is proposed. Such wide discretion, which is necessary if corporate officials are to be held accountable for decisions that rightly fall within their general area of competence, requires that greater emphasis be placed on post-decision, as distinct from pre-decision, monitoring mechanisms. There is also a need for institutional changes — including, in particular, changes to enhance the effectiveness of the board of directors of public corporations.

More specifically, if we apply the proposed principles to the existing system of accountability and control at the federal level, there are a number of areas where the need for reform is suggested. These pertain, in particular, to:

- the relatively circumscribed role of the board of directors in the federal system;
- the emphasis that the *Financial Administration Act* gives to pre-decision controls. Federal enterprises must obtain approval for:
  - corporate plans;
  - capital budgets; and
  - operating budgets in the case of revenue-dependent corporations.

At the provincial level, existing control mechanisms depart in various ways from the principles that we have put forward. Among other things, there is considerable scope for institutional reform designed to increase the opportunity for legislature scrutiny. In this regard, concern applies to:

- the ability of ministers, in some instances, to establish public enterprises without legislative approval;

- the general inadequacy of the information on corporate activities and performance made available to legislatures.

In Figure 9-1 we summarize the specific changes in accountability and control mechanisms that are being proposed. We have used the federal system as our basis of comparison, although in fact, as the blanks in the last column indicate, there is much that we find desirable in the federal approach. The suggested reforms pertain mainly to the appointment and powers of corporate directors, and (related to the latter) the division between pre-decision and post-decision controls. The relevant distinctions will become clearer below as we elaborate upon the elements of the proposed approach.

Figure 9-1

Proposed Changes in Accountability and Control Mechanisms

	Federal approach (as specified in Part XII of the *Financial Administration Act*)	Proposed changes (if any)
Creation/disposal, etc.:		
- parent corporation	- authorized by Parliament	
- subsidiary	- authorized by Cabinet	
Directives	- issued by Cabinet; tabled in Parliament	
Appointments and remuneration:		
- appointment of directors (parent corporation)	- by minister responsible, with Cabinet approval	- by Cabinet from among candidates put forward by independent commission
- term of directors	- a renewable term of up to three years, but subject to removal at any time	
- appointment of chief executive officer	- by Cabinet, after consulting board of directors	- by board of directors
- remuneration of chief executive officer	- set by Cabinet	- set by board, subject to broad guidelines issued by Cabinet
- appointment of corporation auditor	- by Cabinet, after consulting board of directors	- by board
Objectives/plans/budgets:		
- "statement of objectives"		- issued by Cabinet, tabled in Parliament
- corporate plan	- approved by Cabinet, on recommendation of minister responsible	- approved by board of directors
- capital budget	- approved by Treasury Board on recommendation of minister responsible	- to be submitted to new central group, to be assessed on basis of commercial criteria; to be submitted to minister responsible if noncommercial objectives are involved
- operating budget	- approved by Treasury Board after recommendation of appropriate minister for corporations in Part I of Schedule C	- submitted mainly for information purposes
Audit:		
- annual audit	- tabled in Parliament	
- internal audit	- to be overseen by audit committee of board of directors	(i) for internal control: by private-sector auditor or consultant - at request of board of directors; must report to board
- special examination	- at least every five years; to report to board for corporations in Part II of Schedule C; and also to report to minister and Parliament, if necessary, for corporations in Part I of Schedule C	(ii) for external control: by Auditor General - at request of Parliament; must report to relevant standing committee (in camera, if necessary)
Reports:		
- summary of corporate plan and budget	- tabled in Parliament	- abolished
- extended annual report	- tabled in Parliament	
- consolidated report on activities of all parent Crown corporations	- tabled in Parliament	

Basic Components of the Proposed Approach

The Specification of Corporate Objectives

An effective management and control system must incorporate a process for the specification of corporate objectives. We distinguish corporate objectives from the mandate of the enterprise. The mandate of a corporation is the general purposes, tasks, and powers devolving to an entity, or more specifically to its board, as expressed in the relevant Act or other constituting instrument. It is generally broadly defined so as to allow for all the possible roles that are envisaged when a corporation is initially established. Corporate objectives are intended to give precise expression to the responsibilities of the enterprise, as set out in the mandate.

In some jurisdictions, the corporate plan has become the favoured instrument for defining corporate objectives. In addition to specifying objectives, corporate plans typically consider multi-year strategies for achieving corporate goals. The corporation's capital budget for the coming year is generally submitted with the corporate plan and, not unnaturally, is the subject of particular interest and attention.

The importance of strategic planning is readily accepted by major private-sector firms. Similarly, the corporate plan can provide a much needed sense of direction for public firms. We do not believe, however, that the corporate plan is the most appropriate instrument for specifying corporate objectives. We propose an alternative vehicle whose central focus is the clear articulation of corporate objectives. Governments would assume the initiative in developing the proposed *statement of objectives*, which is befitting the nature of this document as a policy statement. But because the determination of objectives requires information on the feasibility and cost of alternatives — information that is most accessible to those involved in specific activities — the statement of objectives would be developed in consultation with corporate management and the board.

We propose that the statement of objectives be tabled in the legislature so that the government's expectations for a particular corporation will go on public record. The statement should be subject to annual review. A major evaluation of the role and objectives of the corporation, which could lead to the development of a new statement, should occur every three to five years. Changes that the government requires at any other time should be indicated by a directive to the corporation. We believe that such directives should be tabled in the legislature and recognized as constituting a formal amendment to the statement of objectives.

A major purpose of the proposed statement would be to resolve any conflict between the various objectives assigned to the corporation. In the case of profit-oriented corporations, this would require that all imposed public duties that might detract from the corporation's commercial pursuits be clearly specified. Where, as is usual, there are no close market substitutes for the noncommercial services being produced, it is appropriate for governments to decide both the level of output and the quality of service. This will often be difficult to do, at least without some learning and experimentation. Where this is the case, the budgetary allocation for a specific activity will often serve as a useful proxy. Government direction would, in other words, consist of indicating the funds to be earmarked for a particular pursuit rather than specifying the quantity and quality of service to be provided. It is important, however, that the latter dimensions be monitored and that changes in the quantity or quality of production be considered in assessing corporate performance.

Where government intentions are conveyed in terms of expenditures, the allocation of funds in the corporation's operating budget should correspond to the requirements set out in the statement of objectives. By requiring corporations to file their operating budgets for information purposes, the government can ensure that this is the case. We are not proposing that operating budgets be submitted for approval; this is properly the function of the board of directors. The operating budget can, however, serve as a useful vehicle, in some circumstances, to help define corporate obligations and responsibilities.

The statement of objectives will be based on certain expectations with respect to the assets available to the firm to fulfil its noncommercial objectives. Where these expectations prove incorrect, it may be necessary to revise the statement of objectives. Investment considerations, however, will constitute a main element within "the statement" only on those rare occasions where the corporation has been delegated responsibility for noncommercial capital expenditures. In the case, let us say, of a public firm whose main responsibility is to undertake high-risk exploration, the relevant objective might reasonably be defined in terms of allowed capital expenditures. The "statement" would, in this case, be an annual document authorizing a given level of capital spending and specifying the relevant criteria, including the indicators being monitored.

What we are proposing, therefore, is a public statement that would clearly set out corporate responsibilities and that could serve both as a guide to management and as a basis for assessing corporate performance. In various ways governments do already indicate their public-policy expectations. A few corporations have

quite specific public-policy constraints in their enabling legislation. We have already noted, for example, that the mandate of Fishery Products International identified, among other things, a number of specific plants that could not be closed by the new corporation. In Bill C-97 on VIA Rail, there was an attempt to articulate public-policy objectives more clearly by identifying the extent to which the government is prepared to subsidize particular types of passenger service. More generally, governments attempt to convey their expectations and priorities through Cabinet decisions and communications from the minister. Our intention is to establish a process that is more systematic and one that ensures that all essential information is in the public domain.

The proposed statement of objectives is very different from the corporate plan that has found favour in a number of jurisdictions. The emphasis in "the statement" is on policy planning rather than corporate planning. The former is a legitimate focus for ministerial input and direction. The latter, on the other hand, involves many decisions unrelated to the corporation's noncommercial responsibilities and depends, to a considerable degree, on managerial expertise, as distinct from political judgment.

9.1 We recommend that governments table a statement of objectives for each public corporation under their jurisdiction. This statement should attempt to clarify government expectations with respect to the provision of noncommercial services and to resolve possible conflicts among noncommercial objectives and between commercial and noncommercial objectives. The statement should be subject to a regular, periodic review — preferably annually — and to a major re-evaluation at least every three to five years.

Institutional Reform and the Role of the Board of Directors

As desirable as it is to delineate areas of responsibility, experience suggests that a structure based on a separation of functions is likely to be subject to certain significant strains and pressures. It is important, therefore, that there exist mechanisms and institutions to offset those pressures. The requirement that the statement of objectives, along with directives amending the statement, be tabled in the legislature can play a useful role in this regard; delegated responsibilities have increased importance and credibility when they are a matter of public record. This is an insufficient safeguard, however; there is also a need for institutions that will promote the desired balance in the relationship between governments and their corporate entities.

In considering the nature of the institutional reform that is required, we have given serious thought to the role that could be played by a holding corporation. We have also examined the contribution to be made by legislatures and federal and provincial auditors. These two institutions are important components of a system designed to ensure accountability by those entrusted with authority both within the public corporation and within government. We shall return later to the general issue of institutional reform and the role of each of these bodies. For the present, we want to emphasize the benefits we believe to be available from the establishment of strong and effective boards of directors and the changes that are necessary for these gains to be realized.

The boards of public corporations have tended to be more useful as policy conduits than as control mechanisms. The former role has been encouraged by the composition of public boards, which have tended to include government representatives (sometimes the minister), political appointees, and significant special-interest representation. It has also been the result of the ill-defined nature of government expectations with respect to their public corporations. The vagueness as to the corporation's role has created corresponding ambiguity as to the responsibility of the board.

In our view, the boards of public corporations are well situated to play a major role in strengthening the structure of accountability and control. An effective system of accountability depends, as we have said, on a clear statement of government objectives. The board can help to ensure that such a statement exists, that it is sufficiently precise, and that it serves as the channel through which government direction occurs. For the board to fill this role, it is necessary, first, that (as under current federal legislation) the legal responsibility of the board be defined according to the *Canada Business Corporations Act* — that is, "to act honestly and in good faith with a view to the best interests of the corporation." Second, it is necessary that the interest of the corporation be equated explicitly with government objectives, as set down in the "statement of objectives" and tabled in the legislature. Under these conditions, the board has a responsibility to press the government to articulate its objectives clearly. And it has a duty to reject government intervention that does not occur pursuant to the rules specified by the legislature.

Beyond this, boards can play a much more effective role as part of the apparatus of internal control within a public corporation. In private-sector corporations, the board of directors maintains control through its right to ratify and monitor major corporate initiatives and to hire, fire, and set the compensation of, senior corporate executives. A major Conference Board survey found:

Basic Components of the Proposed Approach

The Specification of Corporate Objectives

An effective management and control system must incorporate a process for the specification of corporate objectives. We distinguish corporate objectives from the mandate of the enterprise. The mandate of a corporation is the general purposes, tasks, and powers devolving to an entity, or more specifically to its board, as expressed in the relevant Act or other constituting instrument. It is generally broadly defined so as to allow for all the possible roles that are envisaged when a corporation is initially established. Corporate objectives are intended to give precise expression to the responsibilities of the enterprise, as set out in the mandate.

In some jurisdictions, the corporate plan has become the favoured instrument for defining corporate objectives. In addition to specifying objectives, corporate plans typically consider multi-year strategies for achieving corporate goals. The corporation's capital budget for the coming year is generally submitted with the corporate plan and, not unnaturally, is the subject of particular interest and attention.

The importance of strategic planning is readily accepted by major private-sector firms. Similarly, the corporate plan can provide a much needed sense of direction for public firms. We do not believe, however, that the corporate plan is the most appropriate instrument for specifying corporate objectives. We propose an alternative vehicle whose central focus is the clear articulation of corporate objectives. Governments would assume the initiative in developing the proposed *statement of objectives*, which is befitting the nature of this document as a policy statement. But because the determination of objectives requires information on the feasibility and cost of alternatives — information that is most accessible to those involved in specific activities — the statement of objectives would be developed in consultation with corporate management and the board.

We propose that the statement of objectives be tabled in the legislature so that the government's expectations for a particular corporation will go on public record. The statement should be subject to annual review. A major evaluation of the role and objectives of the corporation, which could lead to the development of a new statement, should occur every three to five years. Changes that the government requires at any other time should be indicated by a directive to the corporation. We believe that such directives should be tabled in the legislature and recognized as constituting a formal amendment to the statement of objectives.

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The boards of public corporations have tended to be more useful as policy conduits than as control mechanisms. The former role has been encouraged by the composition of public boards, which have tended to include government representatives (sometimes the minister), political appointees, and significant special-interest representation. It has also been the result of the ill-defined nature of government expectations with respect to their public corporations. The vagueness as to the corporation's role has created corresponding ambiguity as to the responsibility of the board.

In our view, the boards of public corporations are well situated to play a major role in strengthening the structure of accountability and control. An effective system of accountability depends, as we have said, on a clear statement of government objectives. The board can help to ensure that such a statement exists, that it is sufficiently precise, and that it serves as the channel through which government direction occurs. For the board to fill this role, it is necessary, first, that (as under current federal legislation) the legal responsibility of the board be defined according to the *Canada Business Corporations Act* — that is, "to act honestly and in good faith with a view to the best interests of the corporation." Second, it is necessary that the interest of the corporation be equated explicitly with government objectives, as set down in the "statement of objectives" and tabled in the legislature. Under these conditions, the board has a responsibility to press the government to articulate its objectives clearly. And it has a duty to reject government intervention that does not occur pursuant to the rules specified by the legislature.

Beyond this, boards can play a much more effective role as part of the apparatus of internal control within a public corporation. In private-sector corporations, the board of directors maintains control through its right to ratify and monitor major corporate initiatives and to hire, fire, and set the compensation of, senior corporate executives. A major Conference Board survey found:

> By far the most commonly mentioned function of the board, and the one that seems most important to many directors, pertains to the selection, monitoring and appraisal, succession and, as necessary, replacement of senior management. Of these ... it is monitoring that seems to be preeminent....
>
> The function next in frequency of mention and, to some, second in importance is deliberation and decision about policies and planning. Here, ... the board's role should be to review and approve, but not initiate, which is the job of management.[1]

The board of a public corporation should similarly have authority to hire and fire the chief operating officer. Like their private-sector counterparts, members of public boards should also participate in major decisions, including especially the development of a corporate strategy and the establishment of capital and operating budgets. In these and other matters, a diligent board can serve not only as an important source of advice for management but also as a useful disciplinary mechanism. The latter is accomplished "by asking tough questions, or being ready to, and thereby keeping management on its toes; by forcing management to make thorough and adequate preparations for board meetings; and by preventing sloppy practices from taking hold."[2]

To successfully fulfil the role we have described, the composition of the board must reflect the fact that this is a body distinct from the government itself. Boards of public corporations should not, in our view, include ministers or public servants. They should comprise individuals who have a contribution to make as a result of their experience and expertise with the types of technical decisions that are delegated to public corporations. The inclusion of government representatives jeopardizes the independence of the board and creates a potential for conflict of interest. The latter concern has been highlighted in a recent statement by a former minister, which cites three main problems resulting from the use of public servants as directors:

> The first is that the public servant is the most direct representative of the shareholder, because normally the public servant in question reports to the minister responsible for the corporation. The government representative is often called upon to bear the full responsibility of the board of directors. This is an unhealthy and unfair situation.
>
> Secondly the public servant may sometimes be in a conflict of interest situation with himself, or with his colleagues in the department, if the department has to make decisions about providing assistance through certain aid programs for industry.
>
> Third, the government representative, and his subordinate, has to deal with the minister, who is his superior. Hence, when the public servant reports to the minister on the situation of the corporation ... he does not have the same weight as a non-government person would have.[3]

To establish boards with the required degree of independence from government and that comprise individuals who, like their private-sector counterparts, are "experts in decision control,"[4] major changes are required. In the past, too little attention was given to the qualifications, as distinct from the political credentials, of candidates for directorships. If boards of public corporations are to have the required independence and authority, there must be a fundamental change in the appointment process. We believe that in each jurisdiction an independent commission should be responsible for maintaining a list of individuals with the knowledge and experience required on the boards of various public corporations. Using this list the commission would nominate a number of individuals to fill each board vacancy that arises. Ministers would make the final appointment, but in doing so they would be required to choose from among the candidates put forward by the commission. It is essential that the commissioners themselves be individuals who have distinguished themselves by their past service and whose integrity is beyond question. While the members of the commission would be chosen by the government, it is desirable that this choice be subject to review by a parliamentary committee.

As a corollary of the need for a high-quality, effective board, governments must have the power to dismiss directors who perform inadequately. A major weakness of previous federal legislation was the high degree of security it afforded directors; poor directors were rarely dismissed. Outside directors should be appointed for a fixed term and be eligible for reappointment. And they should be subject to removal by the appropriate minister at any time. On these matters we are in general agreement with existing federal legislation. But we emphasize the need for ministers to be answerable to the legislature in cases where a director is prematurely dismissed or not reappointed. Specialized parliamentary committees, which we shall discuss later, offer a useful forum for the questioning of ministers on this matter.

If boards of public corporations are to attract individuals with the required ability and experience, other changes may be necessary. Public corporations presently tend to demand a greater time commitment from their outside directors than do private corporations and to offer significantly less generous compensation.[5] We believe that director fees should be brought more in line with those in the private sector. Generally this would involve an increase in the pay provided for regular board service and the establishment of additional

payments, where none exist, for service on committees of the board.

An increase in the fee schedule, along with a clarification of the responsibilities of board members, should make it easier to attract individuals with established reputations as experts in "decision control." In private-sector corporations, these individuals play a key role. They possess the skills required of an outside director, but in addition they have a strong interest in fulfilling their fiduciary responsibilities so as to protect their professional reputations.[6] Government could do more to encourage such individuals to serve as directors of public corporations.

9.2 We recommend that the legal responsibility of the board of directors of public corporations be the same as that of the board of a private corporation under the *Canada Business Corporations Act*. The "interest" of the corporation, as discussed in the Act, should be equated with government objectives, as set down in the "statement of objectives."

Furthermore,

9.3 We recommend that outside directors of public corporations be appointed by the government concerned, from among the candidates put forward by an independent commission. Boards of public corporations should not include ministers or public servants from the parent government.

An Effective System of Monitoring

Monitoring mechanisms serve to provide assurance that managements and boards are using the authority delegated to them to pursue specified objectives. The development of a clear "statement of objectives" will facilitate monitoring but will not eliminate the need for it. As we noted in Chapter 8, it is important to consider the costs incurred in administering a monitoring system; the challenge is to develop a system that will minimize the sum of the costs of control and the losses from inadequate control.

An efficient monitoring system will have two components: 1) low-cost and low-error mechanisms for gathering and assessing information on corporate performance; and 2) effective reward and punishment mechanisms.[7] These are complements in the sense that performance assessment without rewards or punishment will not create the desired incentive for efficient performance. But reward mechanisms can also serve as a substitute for performance assessment to the extent that they succeed in eliminating conflicts between organizational goals and the interests of management. In the private sector, a partial reconciliation of interests is sometimes achieved by tying executive remuneration to stock-market performance.

Three questions must be addressed in developing a monitoring system: First, what is the appropriate mix between pre-decision and post-decision monitoring devices? Second, what types of measures should be utilized for purposes of performance assessment? And, third, how should rewards and penalties be incorporated within the system? Let us look at each of these issues in more detail.

Pre- and Post-Decision Monitoring

In choosing between alternative forms of monitoring, we must recognize that pre-decision monitoring can impinge upon the authority of the corporation management and board; responsibility for the consequences of a decision may now be as much the responsibility of those who approved the decision as of those who made the recommendation. Accordingly, it should be employed sparingly. Generally, corporate decisions should not require approval, so long as appropriate incentives can be created by monitoring the consequences of the decision and accordingly rewarding or penalizing those responsible.

While, on this basis, *operating budgets* should not require approval, special considerations arise in the case of corporations that are dependent on appropriations. In this case, corporate requests are weighed by the government against competing requirements and then included in the estimates presented to the legislature. But while Cabinet must have an opportunity to influence the operating budgets of revenue-dependent corporations, the statement of objectives is an adequate vehicle for that purpose. By amending the "statement," the government can, where necessary, reduce the funds to be allocated to particular activities. As opposed to a requirement for operating budgets to be approved, the proposed approach would impinge much less upon the powers of the board of directors. First, government input into the budgetary process would be on an "exception" basis; changes to the budget would be required only in those cases where Cabinet undertook to amend the statement of objectives. And, second, if government intervention did occur, it would not pertain to the details of the operating budget but to the amounts earmarked for specific activities that had already been identified as being of particular policy interest. There is thus less risk that Cabinet intervention will reduce managerial discretion over "technical" matters.

A stronger case can be made for some form of pre-monitoring of *capital investment* decisions. It will often be difficult to create appropriate incentives in this case

because the impact of the decision will extend beyond the tenure of the executives and board members involved; besides, the consequences of an investment decision far exceed the scope for punishment. Moreover, governments are reluctant to limit their own authority over decisions that affect the overall size of public-sector financial liabilities. The debts that public corporations incur to finance their investments are, for all practical purposes, government debts. This is the case whether the corporation borrows from government or obtains financing from private financial markets. Government responsibility for corporate financial commitments is explicit for corporations that are "agents," according to the legal definition of the term, but it exists *de facto* for government enterprises that are not agents.

While governments have legitimate interests to protect, both as the owners and bankers of public corporations, existing requirements for capital budget approval open the door to politicians and public servants "second-guessing" corporate managements and boards on what are essentially commercial decisions. The existing process adversely affects the incentive of management and also of the government monitors; the latter cannot be indifferent to the failure of a project when they have participated in, and have some responsibility for, the initial investment decision. These problems are troubling in view of the generally accepted need for government to oversee public-enterprise investment decisions.

It is impossible to eliminate entirely the tension that results from pre-decision monitoring. We believe, however, that problems and conflicts can be reduced by an approval process for commercial investments that is closer to that experienced by private-sector firms competing for investment funds.

We propose that an agency located within one of the main management departments of government (Treasury Board or Finance, at the federal level) be given the responsibility for approving all commercial investment proposals by public corporations in their jurisdiction. The agency would assess competing proposals on the basis of commercial criteria, utilizing the appropriate opportunity cost of capital (see Appendix A). The implications of proposed investments in terms of total public-sector direct and contingent liabilities would also be considered. In ensuring that appropriate procedures of investment appraisal had been utilized and in examining the soundness of the assumptions underlying the revenue forecast, the agency would function much like a lender or investor in the private sector. As is the case in the private sector, responsibility for the results of individual investments would rest not with the lender but with the management and board of the corporation.

We propose that investments intended to contribute to the achievement of noncommercial objectives be submitted to the minister of the relevant line department. Assessment of such investments should logically be conducted in the context of a more general assessment of policy objectives and policy options; this assessment can be undertaken only by the minister with overall responsibility for the particular subject area. In the proposed scheme, the new investment agency would essentially act as the first "window" to which government enterprise managers would turn with their investment proposals. A project proposal that was rejected based on commercial criteria could be resubmitted to the relevant line department, which would assess it alongside competing public-policy options. There would thus be greater government involvement in the planning of noncommercial projects, and ministers would, in this case, bear a substantial share of the responsibility for the results.

9.4 We recommend that an agency located within one of the central management departments of government be given responsibility for approving all commercial investment proposals by public corporations under its jurisdiction. The agency would assess competing proposals on the basis of commercial criteria, especially the appropriate opportunity cost of capital. Those proposals which are unacceptable by commercial criteria but which might serve other objectives should be submitted to the minister of the relevant line department, to be assessed in a more general policy context.

These arrangements will contribute to a more rational division of responsibilities, both between the government and the corporation, and within government itself. Ministerial involvement in corporate commercial decisions would be minimized. On the other hand, ministers would be clearly associated with capital projects related to the pursuit of particular public-policy objectives. Within government it would be easier to avoid the conflicts that arise where the same individuals who participate in the initial investment decision have subsequent responsibility for post-decision monitoring. It is simply necessary to ensure that post-decision monitoring is entrusted to a central government department rather than to the line department with responsibility for noncommercial investment decisions. There is an argument for completely separating pre- and post-decision monitoring, and for ensuring as well that the task of performance assessment is not assigned to those individuals with responsibility for approving commercial investment proposals. There is, however, much less danger of a conflict in this case. And there may be some more-than-offsetting economies, in terms of information collection and assessment, to justify merging these two tasks within a single central agency.

Performance Measures

With the emphasis on post-decision monitoring, there is a need to develop measures that will provide the necessary assurance that corporate officials are appropriately representing the interests of shareholders. The board of directors would itself be overseeing management, and it is to the board that the government should turn for the information it requires. The government's own performance measures can serve to indicate whether the board is exercising the required influence on management and generally fulfilling the responsibilities with which it has been charged.

The most desirable measures would focus on the overall results of corporate decisions rather than on the processes that generate those results. If one can find meaningful bottom-line indicators, akin to the rate-of-return measures used by private-sector enterprises, monitoring becomes a simpler and less costly undertaking. What is required in this regard is an information system that adjusts for the noncommercial obligations of public firms and allows the firm's overall performance to be assessed in relation to that of private firms engaged in the same activity. It will, however, be difficult at times to work out a satisfactory adjustment for the noncommercial activities of the firm; when for example, commercial and noncommercial activities rely on the same production facilities, it is generally exceedingly difficult to determine the costs attributable to each. In such circumstances, it will be necessary to supplement aggregate performance measures with more detailed indicators that cast light on the efficiency of specific aspects of the public firm's operations.

Let us assume initially that a clean line can be drawn between the profit-oriented and the social aspects of a firm's operations, and that the cost-separation problem does not arise. (This is a reasonable representation of the situation for some public firms charged with quite distinct public duties.) In this case, commercial and noncommercial activities can be examined separately. The commercial performance of the firm can be gauged from an examination of the pre-tax rate of return earned on total capital (that is, excluding subsidies). The numerator of this measure should include interest expense and incorporate adjustments for real costs that may not show up on the corporation's books (because of various subsidies in kind) and revenue that may be forgone (where, for example, the corporation is required to sell below market price).[8] Judgment about a firm's performance as a commercial entity can be made by comparing its rate of return with that of comparable private firms (again, before taxes) and with the appropriate opportunity cost of capital. A low rate of return may reflect poor economic conditions, but if the performance of the public firm is consistently below that of private firms and less than the opportunity cost of capital, there may be reason for concern about the performance of management and the oversight exercised by the board.

The assessment of noncommercial performance is more complex. Generally it is impossible to develop a single indicator that reflects the attainment of the relevant public-policy objectives, although some interesting suggestions have been put forward in some areas. The output of educational institutions, for example, was measured in one study by the number of graduates, qualitatively weighted by the market value of different degrees defined in terms of starting salaries.[9] But such single indicators may not adequately capture all the important features of the public-policy output and may present corporate managers with misleading signals.[10] Generally, it will be necessary to measure the attainment of noncommercial objectives through a combination of indicators, each of which reflects particular dimensions of the quantity and quality of the services being provided. To assess performance with respect to such social objectives, it is necessary to look at the costs of producing the given level and quality of output. It may be possible to compare the costs incurred by the public firm with the production costs of private firms or other public firms involved in the same activity. It will also be important to examine the trend in production costs over time and to attempt to determine whether — and, if so, to what extent — management initiatives have restrained the rise in costs.

When the commercial and social components of a firm's operations cannot be neatly separated, a somewhat more elaborate monitoring system is required. While it is still important to derive an overall measure of the rate of return on capital achieved by the firm and to monitor the attainment of specified noncommercial objectives through the use of an appropriate set of output indicators, because of the difficulty in establishing the costs associated with the firm's social obligations, these figures are not, in themselves, very revealing. It is not clear whether the lower rate of return achieved by the public firm is entirely attributable to its noncommercial obligations or whether it is due, in part, to a lower level of efficiency. And in the absence of information on the resources committed to public-policy goals, it is impossible to determine whether a reasonable level and quality of output has been achieved. In these circumstances it will be necessary to engage in a more detailed examination of specific activities and processes, to assess corporate performance.[11] The ratio of inputs to outputs in various aspects of a firm's operations can, for example, be compared with that of other firms in the industry to ensure that satisfactory levels of productivity are being achieved.[12] The adequacy of any internal control systems can be examined. And

administrative costs can be examined, particularly with a view to whether expenses associated with possible management perquisites, such as office accommodations, travel, and entertainment, are excessive.

The detailed monitoring that is required both to measure the public-policy outputs produced by the firm and to assess performance must be undertaken selectively, with attention to the costs involved — the costs incurred both by government and by the corporation in responding to government information requirements. In some cases, the information that the firm itself compiles on some of the relevant aspects of performance may be inadequate, so that additional data collection is required. In other cases, the information available from the firm may not in itself be meaningful unless it is viewed alongside ratios or trends recorded by other firms involved in similar activities; such comparative analyses may be undertaken most appropriately by consultants who have a detailed knowledge of the particular industry or sector. The costs associated with collecting new data and with commissioning detailed comparative studies are such that these are only likely to be warranted on a periodic basis. The monitoring system must essentially aim at establishing a comprehensive set of "spot checks," which effectively discourages managerial slack.

Rewards and Penalties

Reward and penalty mechanisms contribute to the pressure on management to improve performance and are necessary components of an effective monitoring system. An ideal incentive arrangement would lead to an alignment of management goals with those of the government; rewards and penalties would be such that management could not afford to do other than fully commit itself to the pursuit of the specified objectives. Development of the desired performance-linked incentive scheme is, however, fraught with difficulties.

The theoretical possibilities for applying incentive schemes to public enterprises, as well as to regulated monopolies, have received much attention in the economic literature.[13] In the schemes examined, managerial compensation has been linked alternatively to profits, to cost reductions, and to more general indicators of social welfare. The results of these studies are not promising. A review of the proposed mechanisms leads to the conclusion that it would only be possible to induce managers to put forth the effort required to maximize performance by allowing them to appropriate virtually all the gains.[14] Such a scheme would obviously be impractical. Other studies have looked at the problems that can arise where governments lack the necessary information on performance and are forced to base incentive payments on the movement of inexact proxy indicators; management may have an incentive under these circumstances to report results that are advantageous to themselves but that are clearly inferior in terms of government objectives for the enterprise.[15]

While efforts to develop a simple incentive scheme that could provide the focus for control have been disappointing, this should not discourage attempts to incorporate reward and penalty mechanisms within a general control framework. Management rewards and penalties should be related to the firm's performance in its commercial and various noncommercial undertakings (with these perhaps being weighted to reflect the relative importance that the government attaches to particular objectives) and also to management's commitment to improving the firm's performance over the longer run.[16] Where management has a relatively brief or indefinite tenure, there is the danger that activities with a longer-term payoff will be ignored. To offset this possible bias, the assessment of management performance should include a consideration of whether appropriate resources are being devoted to such things as long-term corporate planning, capital maintenance, R&D, and training programs.

Rewards and penalties can take various forms, including promotions and demotions, bonuses and salary increases, and perks. The practical advantages of particular alternatives are unclear, and this is an area where some experimentation would be desirable. Contingent payment schemes hold promise, but these must be structured so that continuing improvements in performance are not required to justify the continued receipt of a bonus; in the latter case the attraction of this year's bonus is offset by the fact that immediate improvements in performance will make it all that more difficult for management to earn a bonus in subsequent years.[17] An appropriate scheme should provide for the possibility of continued salary gains as long as there are further improvements in performance. To overcome the danger that incentives will become excessively generous over time, no bonuses should be paid unless performance attains some threshold level, and no increases in bonus should be provided unless a certain minimum improvement in performance is achieved.

The appointment and reappointment of the chief executive officer, along with the level of executive compensation, is properly a function of the board of directors. The government should establish guidelines for executive compensation, but these should allow boards flexibility to structure executive compensation so as to create a continuing incentive for a high level of management performance.

The Evaluation of Noncommercial Objectives

A process for the thorough evaluation of the noncommercial objectives of public corporations is an important component of the control framework that we are proposing. While we believe that some areas of decision making lend themselves to less ministerial involvement, the evaluation of noncommercial activities, in our view, warrants increased and more systematic attention by policy makers. This element of the control framework complements and supports two other components of the system. The "statement of objectives" will incorporate the results of the policy evaluation; it will accordingly be revised to reflect changes in direction that emerge from a reassessment of the costs and benefits of pursuing specific public-policy objectives. In addition, the evaluation process provides an important type of "backstop" for the monitoring system; even if there are important forms of waste and inefficiency that escape detection, ministers can, at least, be assured that the price being paid for the pursuit of specific noncommercial objectives is reasonable. Ministers will know, in other words, that particular public-enterprise activities can be justified on the basis of their preferences and in view of available alternatives. A thorough evaluation should be undertaken prior to the creation of a corporation or the establishment of a new public-policy objective, and on a periodic basis thereafter.

The problems involved in evaluating a new proposal and in re-evaluating an existing noncommercial activity will be quite different. In the latter case there will be a body of evidence to call upon in assessing the effectiveness of government enterprise and determining its costs. While it may not be possible to isolate the costs attributable to particular public-policy activities, the difference between the opportunity cost of capital and the corporation's earned rate of return will provide an indication of the costs of employing this instrument. This gap will include the costs that arise from any waste and inefficiency. And it will be an overall cost that must be set against all the public-policy objectives that are being pursued.

In the case of proposed initiatives, cost estimation will be more problematic. Where the proposed activity requires new facilities and a distinct set of operating inputs, a reasonable estimate of costs should be possible. Where the proposed public policy output is to be produced jointly with other outputs, however, it will often be very difficult to work out the additional costs that are likely to be incurred. It is important, notwithstanding these difficulties, that efforts be made to estimate how a proposed undertaking would impact on a firm's expected performance.[18]

The process of evaluating noncommercial activities would include a number of phases. First, the desirability of an activity would be determined. This might include an explicit balancing of costs and benefits if the latter could be evaluated. More generally, it would involve a weighing of the specific public-policy activity against competing claims in the budgetary process. If this phase is to be effective, it is important that costs be properly acknowledged. Any activity that does not yield a return equivalent to the opportunity cost of capital is being publicly subsidized. The costs to the public treasury where an activity is profitable but not earning an economic rate of return, or where an unprofitable activity is being cross-subsidized by a profitable activity, must be considered. An evaluation system centred on the budgetary process would ignore these important forms of implicit subsidization and be grossly inadequate. The budgetary review process must be appropriately adjusted or supplemented by a process for assessing the relative merits of those activities with costs that are not recognized within the budgetary framework. Where there is reliance on the budgetary process, it is also important that costs be charged to the correct area of activity within the appropriate envelope. If, for example, aircraft manufacturing is being supported for defence purposes, the cost should be set against competing claims on the defence budget.

Second, alternative policies that could be employed to achieve the desired objective would be examined. It may be that there are alternative means that are more cost-effective than government enterprise. A government concerned, for example, about the effect of a possible gas shortage on consumers has a number of options: it could order the publicly owned gas utility to maintain higher gas inventories; it could prepare emergency conservation measures; alternatively, it could encourage large consumers to install facilities that would allow them to utilize alternative energy sources. The imposition of a burden on the public corporation is only one means of resolving the problem, and not necessarily the most attractive.[19]

After a particular policy approach has been selected, there may still be choices available as to whether to employ a public or private firm. The third phase of the evaluation process would involve an exploration of the possibilities for subjecting the public firm to competition from private firms or other potential public producers. Government might decide, for example, that subsidized airline service is the most cost-effective means of satisfying the transport requirements of the inhabitants of certain remote communities. To determine how this service should be provided, estimates of the burden that would be imposed on the public firm should be compared with tenders specifying the amount of subsidization required by private firms. While in theory the

existence of a government enterprise should suggest that competitive contracting will not work, in practice public firms are involved in many activities that are well suited to private provision under contract. Competitive contracting can impose a much-needed discipline on public firms, and it is important to be alert to the opportunities available in this regard.

The final phase of the evaluation process would involve efforts to specify clearly the quantity and quality dimensions of the specific noncommercial activity. The degree of direction to be provided to the public firm should be determined by the relative importance of political, as distinct from technical, judgments. In the case, for example, of a public airline required to serve certain "social routes," a high degree of direction is warranted. While the managers of the public firm will be in the best position to estimate the costs of providing different levels and quality of service, political judgments will be required to assess the corresponding benefits and to determine the point at which further improvements in service are no longer justified. The situation is quite different with respect to an objective such as nonconventional exploration, where technical considerations are involved in determining the precise nature of the activity to be undertaken. The final phase of evaluation will only be necessary, therefore, to the extent that political preferences should properly enter into the determination of what specific activities public firms are to perform.

9.5 We recommend that a thorough process of evaluation be undertaken prior to the creation of a public corporation or the establishment of a new public-policy objective for an existing corporation and on a periodic basis thereafter. The evaluation process should attempt to weigh:

a) the specific public-policy objective against competing claims on the government's budget; and

b) alternative instruments for achieving that objective.

Furthermore, the evaluation process should pay special attention to the establishment of an acceptable level of costs associated with a particular activity, where those costs include not only direct subsidies but also the implicit public subsidies that are not customarily considered in the process of budgetary review.

Institutional Reforms

Holding Corporations

A corporation that can serve as a buffer between operating companies and the government is an ostensibly useful check against the threat of excessive government intervention. The Canada Development Investment Corporation (CDIC), for example, provides a single focus for both the government and the operating companies, attempting to simplify the task of directing for the former and of reporting for the latter. It has attempted, on the one hand, to set out the relevant choices for government and, on the other, to translate government decisions into terms that are of operational significance to the management of the separate operating companies.[20]

Inserting an additional layer of control within the system is not without its costs, and these must be set off against any gains that may come from having an intermediary body assume some portion of "managerial" and/or "governmental" tasks. If traditional governmental functions of control and direction are delegated to the holding company, there remains the usual problem of "how to control the controllers." The problems for those within government who have responsibility for overseeing the control company may be especially complex where comparatively simple commercial measures are not meaningful indicators of performance. Where there are significant intercorporate dealings, it is likely to be more difficult than previously to assess the performance of individual operating companies.

The advantages of establishing a holding company to assume responsibilities that usually reside with a corporate management and board are again not obvious. One might expect that, in this case, there would be significant tension between the management of individual firms and the management of the holding corporation; the experience of European countries suggests that this is indeed a significant problem.[21] There may be benefits from removing important areas of decision making from a weak or incompetent management and board, but the required solution in this case is not to establish a holding corporation but to reconstitute and restructure the upper tiers of the operating corporation.

A distinctive variation on the holding-company concept was proposed in a 1976 study by the U.K. National Economic Development Office (NEDO).[22] The proposal was to establish "Policy Councils" to oversee the activities of corporations in each nationalized industry. The Policy Councils were to be permanent bodies comprising representatives of each of the main interest groups and a few senior civil servants. They were to be given their own support staff and to be entrusted with a number of "governmental" functions, including the establishment of corporate objectives, the approval of corporate plans, and the monitoring of corporate performance. The traditional problem of how to monitor the holding company itself does not arise in this case; the representative nature of the Policy Councils and the

process of negotiation that would characterize the decision-making process were expected to confer a high degree of legitimacy and acceptability on their decisions.

The NEDO proposal is an interesting one, although the practicality of establishing what are essentially mini-governments to guide and control public corporations must be questioned. Not surprisingly, the NEDO recommendation was rejected in the subsequent U.K. White Paper on nationalized industries, which was issued in 1978.[23]

The general experience of European countries reinforces our scepticism about the contribution that a state holding company can make to the general problem of control.[24] Such benefits as have been realized from these entities seem mainly to have arisen from their ability to contribute to the resolution of certain common issues. The holding companies have been able to realize certain economies of corporate decision making, and gains have sometimes been made from an improved coordination of enterprise activities. They have not been notably successful in reducing the tension that exists between governments and the managements and boards of their corporate entities. The one partial exception is Statsforetag, the Swedish holding company, although the success achieved in this case must be judged in the context of the very effective consensus-building process that has existed more generally in that country.

While holding companies may have a useful role in some circumstances, they do not provide the solution that we are seeking to pressures that threaten the establishment of an effective system of enterprise accountability. A holding corporation will inevitably impinge to some degree on the role of the board of directors. We believe that the establishment of strong boards is a more promising solution to the problem of control in public corporations.

Legislative Surveillance

Federal and provincial legislatures have a potentially important role in the control process — one that follows naturally from their general responsibility to oversee the activities of the executive. Concern about the lack of information available to Parliament was a major concern underlying recent federal reforms. The federal *Financial Administration Act* now goes significantly further than legislation in most other jurisdictions in acknowledging the legislature's right to be consulted and informed. We wholeheartedly support the intent of federal legislation, and we commend the provinces, in particular, to the provisions in Part XII of the *Financial Administration Act* requiring:

- parliamentary authorization for the creation or acquisition of parent Crown corporations, their disposal, or dissolution, and for major changes in the corporation's object or purpose;

- the tabling of ministerial directives to a corporation;

- the tabling of expanded annual reports that will include not only financed results but also other information indicating to what extent the corporation met its objectives for the financial year.

But while these measures are appropriate and important, they will not in themselves ensure effective legislative surveillance. Members of the legislature will need to look beyond the information that is tabled if they are to understand the factors underlying corporate results. They will also need to inquire further to determine whether procedural rules are being adhered to and whether the conditions necessary for a system of effective accountability and control exist in particular situations. In our view, the key to more effective legislative surveillance at both the federal and provincial levels lies in the greater use of specialized legislative committees.

The capacity of individual members of the legislature to play an influential role has been limited in the past by strong systems of party discipline.[25] The operation of the party system has also restricted the role and effectiveness of parliamentary committees. There have, however, been some notable exceptions. We referred earlier to the contributions of the Select Committee on Ontario Hydro and the B.C. Standing Committee on Crown Corporations. At the federal level, an example of what can be achieved is provided by the work of the half dozen parliamentary "task forces" that were set up after the 1980 election. These and other examples illustrate that legislative committees can function in a nonpartisan manner on certain issues not vital to the government's existence. What is required is recognition that legislative scrutiny plays an important role in legitimizing the actions of government to the public. For their part, committee members must exercise prudence and recognize that their effectiveness depends on their ability to steer clear of policy matters on which party positions have been firmly established.

In the United Kingdom, select committees are responsible for shadowing the activities of all the leading departments of the state and investigating the activities of the nationalized industries within the sponsoring departments that they monitor. The experience of these committees is instructive:

> The committees are cross-party committees usually with a majority representing the majority party in the house,

> but the spirit of the committees is to find some common ground between the members on all sides of the political spectrum, and this common ground is normally found in criticising at a more detailed level the activities of the executive and its capability in executing policy. It would be more unusual for the committee to have strong views hostile to the stated government policy of the day as the MPs accept that government does have to have general policies which they are trying to implement. A select committee is more likely to be interested in whether such a policy has the outcome that the government thinks it has, whether there is intellectual coherence in the policy objectives and aims, and whether the execution of the policy is being conducted in the most sensible way. Some select committee reports are of an extremely high standard, producing a wealth of evidence on the way in which the executive goes about its work, and at times their conclusions are most valuable.[26]

The experience of the United Kingdom is particularly interesting in view of the recent establishment at the federal level of 28 standing committees to monitor the activities of government departments and agencies. The committees can launch independent investigations into the activities of government departments and Crown corporations that report to the departments they are monitoring. The committees have a staff and a budget, and it is expected that they will be able to scrutinize the activities of departments and Crown corporations in a nonpartisan and professional manner. These reforms to the House of Commons committee system were initially introduced on a trial basis, and they will be reviewed at the end of this year.

Whether legislative committees are organized to reflect the structure of government, as at the federal level, or whether special standing committees are established to focus on government corporations generally, as in Saskatchewan and formerly in British Columbia, they must be given the wherewithal to function effectively. Members of the committee should be appointed for the life of the legislature so that they can develop knowledge and expertise in the particular subject area. The committee must have a competent professional staff and an adequate budget. It must have access to available information and be able to summon representatives of the corporation, and of the government, as necessary for its investigations. Because the committee will need to review detailed corporate information, which could be disadvantageous to the commercial operations of the firm if it were made public, there should be emphasis on in-camera meetings. While committee members have in the past tended to favour public proceedings, these have not provided the most favourable atmosphere for a serious investigative inquiry. With in-camera meetings it has been found that the atmosphere is more relaxed and cooperative. In this case "... members will not be vying to make headlines; rather they will be trying to exercise the surveillance needed in this era of positive government."[27]

Auditing of Public Corporations

The role of federal and provincial auditors has expanded significantly in recent years. In addition to the traditional concern with ensuring that funds voted by a legislature are used for the purpose intended and that the public accounts fairly reflect what actually transpired, auditors general are today becoming increasingly involved in assessing whether "value for money" has been attained. At the federal level, the *Auditor General Act* was amended, following the recommendations of the Independent Review Committee established in 1973, to allow the Auditor General to call attention to cases where "money has been expended without due regard to economy or efficiency; or satisfactory procedures have not been established to measure and report the effectiveness of programs, where such procedures could appropriately and reasonably be implemented."[28] The auditors general of a number of provinces also have comprehensive auditing mandates, although legislation generally does not yet extend to requiring value-for-money audits of provincial Crown corporations.

Despite the increasing interest in comprehensive auditing, views about the value and contribution of this element of the control process vary widely. Some view value-for-money auditing as potentially a key component of control that can provide the necessary assurance that government policy is being executed reliably and efficiently.[29] Others have emphasized the lack of generally agreed principles for value-for-money auditing and the difficulty of deriving an acceptable operational definition of the term "effectiveness." In the opinion of one observer, "comprehensive auditing seems as far removed from financial auditing as an informed guess is from expert measurement. Applying the term "auditing" to it gives it a clever but questionable cachet."[30]

Our own inclination is to view value-for-money auditing as one potentially helpful element in dealing with the complex problem of monitoring government corporations. There is value to periodic independent assessments of corporate management systems and controls. At the same time, it is certainly true that comprehensive audits cannot have the same reliability and credibility as the traditional attest audits. With comprehensive, as distinct from attest, audits, the requirement for subjective judgment is substantially higher, and the possibility for error is significantly greater. It is important that the results of comprehensive audits be treated accordingly. The methodology and criteria adopted by the auditor should themselves be open to criticism

and debate. And the conclusions of the comprehensive audit should be interpreted in the light of management explanations and in relation to alternative evidence gathered by the government or directly assembled by a legislative committee.

Besides being a mechanism of ministerial or legislative control, comprehensive auditing can make a significant contribution to the system of internal control in a public corporation. The board of directors may be expected to call on outside auditors and consultants from time to time to satisfy itself that appropriate management information and control systems are in place and that acceptable management practices are generally being followed. Such examinations would assist the board in fulfilling its responsibility for overseeing the management of the corporation.

Under current federal legislation this distinction between internal and external control is blurred. While the audit committee of the board is assigned the responsibility for internal audits, there is at the same time a requirement that a comprehensive audit or "special examination" be undertaken at least once every five years for each parent Crown corporation and their wholly owned subsidiaries. The report of the auditor or "examiner" is to be submitted to the corporation's board. In addition, however, the examiner of corporations in Part I of Schedule C can, if he believes it desirable, bring the results of the examination to the attention of the relevant minister and of Parliament.

In our view a clearer separation between the use of comprehensive auditing in internal and external control is desirable. Here, as elsewhere, it is important to respect the role and responsibilities of the board of directors. The board must be given the freedom to determine how best to discharge its responsibilities. The need for a special examination, in the context of the process of internal control, is most appropriately left to the judgment of the board of directors.

As well, current federal legislation incorporates some distinctions that in our view are not very meaningful and that reduce the usefulness of comprehensive auditing as a mechanism of external control. This applies particularly to the different treatment accorded corporations in Parts I and II of Schedule C. As we noted earlier, the activities of corporations in Part II are very often supported by public subsidies, though these are implicit rather than explicit. Significant control problems may arise in the case of self-financing corporations, and comprehensive audits can make a contribution to the monitoring and control process if they are made available for discussion in the appropriate forum.

We also take issue with the general practice of the auditor reporting to the legislature only those situations where he believes there are serious deficiencies of some type. An auditor's findings should be subject to discussion and review regardless of the conclusions that are reached. All value-for-money reports by an auditor general should be made available to legislative committees. To the extent that matters of potential commercial confidentiality are at issue, these should be published in a separate volume, for examination at in-camera meetings.

Since auditors general are agents of the legislature, their reports should be timed to respond to the needs of legislative committees. Comprehensive audits would ideally be organized so that the reports would be available just prior to a legislative committee's own investigation of a particular public corporation. This type of coordination would require some degree of forward planning, and it may entail negotiations in which legislative committees work out their joint priorities; however, these are not insurmountable problems.

Special Situations

Mixed Enterprises

As we noted in Chapter 6, there is a large number of important corporations that governments do not own but in which they do have significant shareholdings, either directly or indirectly. In coming years, moreover, the mixed public/private entity could become much more important because of its attraction as a convenient halfway house on the road to privatization.

As we noted earlier, mixed enterprises involve a type of contractual arrangement between the government and the corporation's minority shareholders. Because of its obligation to abide by the terms of this arrangement, the government is greatly limited in its ability to provide direction and exercise direct control. Any government intervention in the affairs of the corporation is likely to be seen as a violation of the contractual arrangement and a direct threat to the interests of the minority shareholders. Where a portion of the shares are publicly traded, even a hint of intervention is likely to affect share prices substantially.

Governments have implicitly acknowledged these constraints where they accept their status as one among a number of shareholders in dealing with enterprises incorporated pursuant to federal or provincial companies legislation. These statutes do not bestow any special powers on the government. Nor do they accord federal or provincial legislatures privileged access to information on the corporation's management or

performance. The designated minister has the same rights as other shareholders with respect, for example, to the election of directors and access to the financial statements of the corporation.

Where a portion of the equity in a mixed enterprise is traded on the stock market, the existence of this ongoing valuation process will facilitate monitoring. It would be wrong, however, to expect that market controls can provide a completely adequate substitute for administrative controls. As we noted previously, mixed enterprises are not subject to the important form of market discipline that operates in the private sector through the takeover market. The government cannot be replaced as a controlling shareholder, even where a change in control is accompanied by a change in management and the introduction of a new corporate strategy could lead to a major increase in the value of the corporation. The ever-present possibility of a takeover or rebellion by a group of dissident shareholders is a pressure to which the managers of mixed corporations, unlike their private-sector counterparts, need not respond.

The inadequacy of market controls and the constraints on the application of administrative controls are a basic conundrum. There is a need for governments to monitor the activities of mixed enterprises, since market controls cannot be relied upon, but the control mechanisms adopted must be compatible with a government's obligation to minority shareholders. Pre-decision controls that are likely to pose a threat to the interests of minority shareholders will generally be unacceptable. While a requirement for prior approval of the capital spending of mixed enterprises could thus create problems, such a provision could in some cases be justified by the fact that a firm with substantial government ownership benefits from the public-sector connection when it borrows in the capital market. Where pre-decision control is required, this is most appropriately exercised by the type of central agency we proposed previously for the review of commercial investment decisions of public corporations. This approach will not eliminate the problems associated with pre-decision control, but it will help to reduce the concern of minority shareholders that the approval process will be used to direct the firm towards noncommercial activities. If mixed enterprise is employed in the modest manner that we have proposed, however, the approval of capital spending will not be necessary or desirable. Where the government is a minority shareholder or where it is only temporarily a majority shareholder (i.e., where it is in the process of privatizing the corporation), the costs of an investment review process are likely to exceed its benefits.

The relationship between a government and a mixed enterprise should therefore be characterized by a delegation of powers exceeding that for wholly owned corporations. We believe the board of directors is the appropriate body to manage and direct the corporation within the context of the mandate agreed upon by the shareholders. Where the designated minister attempts to exercise control other than through his representatives on the board of directors, conflicts with the corporation's minority shareholders will inevitably arise. Directives and budgetary controls generally do not have a place within the looser control framework required for mixed enterprises.

What this spells out is a framework of control in which the government's powers are essentially those defined for any shareholder under federal or provincial corporate law. This is consistent with much of current practice and similar to the recommendation of the Lambert Commission.[31] It is, in our view, the only appropriate solution, given the practical constraints and the need to design a suitably modest control structure.

We also see the need for a special group within government charged with ongoing responsibility for monitoring the performance of mixed enterprises. The main purpose of this exercise would be to sound the alarm should the performance of a corporation fall significantly and consistently below a reasonable standard.

Subsidiaries

Many public corporations have authority under their Acts to establish subsidiaries, or at least they are not precluded from doing so. In many instances, subsidiaries are free from the reporting requirements that apply to their parents. Subsidiaries created pursuant to companies law may indeed have greater powers than their parents, who are bound by the provisions of their particular enabling legislation. Under the new federal legislation, the creation or acquisition of subsidiaries by parent corporations requires Governor-in-Council approval. Similar controls do not, however, exist in most provinces.

In our view a public corporation should not be allowed to create or acquire a subsidiary without explicit Cabinet approval. Before acceding to the establishment or acquisition of a subsidiary, ministers must, in turn, assure themselves that this is necessary for the achievement of a particular objective or that it will result in economies more than sufficient to offset the increased burden on the public sector in terms of administration and control. The mandate and powers of the subsidiary should not be greater than those of the parent. It will be necessary, as well, to ensure that control mechanisms that apply to the parent also apply to the subsidiary. This will require that government performance-

monitoring systems be expanded accordingly and that requirements for capital budget approval and external auditing be extended to wholly owned subsidiaries.

9.6 We recommend that Cabinet approval be required for a public corporation to create or acquire a subsidiary. The powers of a subsidiary should not be greater than those of the parent, and wholly owned subsidiaries should be subject to the same control mechanisms as their parents.

Government-Enterprise Monopolies

The special considerations that apply in devising control mechanisms for public corporations that are monopolies were discussed in Chapter 4. That discussion suggested the need for arrangements that, in some respects, are very different from those proposed earlier in this chapter.

In the case of monopolies, as in the case of public corporations in competitive markets, there is a need to develop mechanisms to ensure that directors and managers are appropriately exercising the authority they have been delegated. But superimposed on this general problem of public-enterprise control is the problem of monopoly control; there is a need to establish administrative controls to compensate for the feebleness of market controls. As we noted in Chapter 4, this involves the regulation of prices, along with the monitoring of rates of return, the quality of a firm's output, and its costs of production. As well, the monitoring of capital spending takes on added importance because of both the magnitude of the capital projects and the possible incentive for overinvestment in cases where the allowed rate of return exceeds the costs of capital. The resulting emphasis on pre-decision monitoring makes the control regime very different from what was described earlier with respect to mixed enterprise.

An important consideration in the control of monopolies is that commercial confidentiality need not be a concern. The performance of the enterprise can thus be subjected to a more open process of discussion and debate. An independent regulatory commission can provide the forum required for public review of enterprise activities and also assume some of the research and administrative burden that would otherwise fall on government. There is, in other words, the possibility of benefiting both from the establishment of an administrative process with certain attractive procedural characteristics and from the delegation of some of government's control responsibilities.

In Chapter 4, we proposed that regulatory commissions be assigned a major part of the responsibility for the monitoring and control of government-enterprise monopolies. The limits on what can be assigned to the commission arise from the government's needs in terms of the direction it wishes to provide to public corporations. In the case of electric utilities we have suggested that it is reasonable for provincial governments themselves (as distinct from the commissions) to have the final say over corporate capital investments; this recognizes the desire of those governments to use utility investments to serve stabilization objectives. The regulatory commission, however, would have an advisory function with respect to overall investment requirements, in addition to carrying out traditional regulatory functions involving the control of prices and the monitoring of costs and of the nature and quality of production.

The need for a clear statement of objectives to serve as the basis for assessing corporate performance is as important for public monopolies as for other enterprises. We propose that public monopolies be provided with a statement of objectives of the sort described earlier in this chapter. The "statement" should attempt to indicate government requirements precisely with respect to any obligation that could conflict with the main activities of the enterprise. Through amendments to the statement, the government would give notice to the public and the regulatory commission of any additional tasks and obligations being imposed on the corporations.

So long as public-enterprise monopolies serve multiple objectives, the evaluation function we described earlier in the chapter will also be of importance. Objectives that are assigned to the corporation and supplementary to its main responsibility of providing a particular service must be subjected to ongoing review to determine whether they continue to merit public support and whether they should continue to be pursued through the use of a public corporation.

The Legal Status of Public Corporations

By virtue of their relationship to the government and to the Crown, most federal and provincial government enterprises are subject to various special privileges and immunities.[32] Those public corporations legally deemed to have Crown-agency status are accorded special treatment in law. As a general rule, the Crown and its agents are not liable to criminal prosecution. A more far-reaching principle holds that the Crown and its agents are not bound by a statute unless they are expressly named therein or are bound by "necessary implication." This principle, which is embodied in statutory form in Section 16 of the federal *Interpretation Act*

and in corresponding provincial *Interpretation Acts*, has found application in a number of important legal cases. In 1982, Eldorado Nuclear Limited was held, along with Uranium Canada, to be immune from prosecution under the *Combines Investigation Act*. The Ontario Development Corporation was found to be exempt from the requirements of the *Planning Act* in 1976. The Caisse de dépôt et placement du Québec argued successfully in 1983 that it was not subject to the insider trading and takeover bid requirements set out in the Ontario *Securities Acts*. Not all public corporations benefit from these immunities; in the case of some corporations, such as Air Canada and Ontario Hydro, there is an express declaration that these are *not* agents of the Crown. But because of a statement in their enabling Act or of umbrella legislation governing Crown corporations (the case in Saskatchewan), or as a consequence of common-law interpretations, many public corporations do enjoy the privileges that derive from being considered agents of the Crown.

Crown corporations, whether or not they are legally deemed to have agency status, may benefit from immunity to corporate tax legislation. Section 149 (1)(d) of the federal *Income Tax Act* expressly exempts from tax:

> ... a corporation, commission or association not less than 90 per cent of the shares or capital of which was owned by Her Majesty in right of Canada or a province ... or a wholly owned corporation subsidiary to such a corporation, commission or association....

Another section of the *Income Tax Act* denies this exemption to most federal public enterprises. The latter are, for the most part, subject to both federal and provincial taxes. Most provincial enterprises, however, are able to take advantage of the federal exemption under Section 149 (1)(d), along with similar exemptions under provincial tax legislation.

On equity grounds, one might generally question whether it is appropriate for government enterprises to be granted special treatment in law. The Law Reform Commission has noted that major discrepancies exist in the present system.[33] While some largely commercial public corporations benefit from being agents, other administrative bodies performing essentially public functions do not enjoy this status. The Commission has also observed that Crown immunity is contrary to the principle of equality before the law, as expressed in the Charter of Rights. There is a clear need for a broad review of federal and provincial *Interpretation Acts*, under which Crown agents are held to be exempt from general legislation in the absence of any express statutory declaration to the contrary.

In economic terms, the special privileges available to public corporations are generally difficult to justify. Recent amendments to the *Combines Investigation Act* have removed one of the more troubling of these privileges;[34] the Act now expressly applies to agent corporations that are engaged in commercial activities. But other exemptions that continue to place public firms in a favoured position relative to their private-sector counterparts create the possibility for a significant misuse of resources.

The tax exemption available to most provincial enterprises raises a number of concerns. This is in effect a transfer from the federal government to the provinces. To the extent that this transfer leads to certain forms of subsidization and thereby causes choices to be made that would not be made on the basis of underlying economic conditions, it will contribute to a misallocation of resources. The tax exemption can, for example, result in lower prices on the output produced by public firms; too many resources may, as a consequence, be absorbed by public producers and by industries dominated by government enterprises. The implicit transfer arising from the tax immunity of provincial corporations is also likely to affect the net fiscal benefits (defined as the share of public services that a person receives minus the taxes he pays) available to individuals in various provinces. As the Council noted in a previous report,[35] efficiency requires that labour movements between provinces be guided by differences in productivity rather than differences in fiscal benefits. To the extent that existing arrangements contribute to differences between provinces in net fiscal benefits and that this is not offset by equalization payments, economic efficiency will be reduced. A further distortion may arise from the effect of tax immunity on the way the government intervenes in the market. Because of the attraction of tax immunity, provincial governments may opt for the use of government enterprise in situations where there are more appropriate instruments available.

While these effects are of legitimate concern, their size and importance should not be exaggerated. Although, for example, the tax immunity of public corporations is an attraction, the tax savings will seldom be of such a magnitude as to justify the costs of establishing and managing a new public organization. As we have seen, tax considerations have usually been a contributing factor rather than a main element in the decision to establish a public corporation. The effect of the tax exemption on prices and the competitive position of public firms can be important, but it need not be; through administrative arrangements that put pressure on public corporations to earn an appropriate rate of return, this distortion can be minimized. The disparity between provinces in net fiscal benefits has other, more important causes than the tax-free status of provincial corporations. Moreover, it can be addressed through an appropriate system of equalization payments.

Given, however, that these biases and distortions can be significant and that they cannot always be easily offset, there is an argument for removing the current tax exemption. Such an initiative would meet with certain practical problems. Public corporations tend to have a high debt/equity ratio partly as a consequence of the favourable terms under which they can borrow. Were these corporations subject to taxation by another level of government, there might be an incentive to reduce profits by further increasing debt/equity ratios. The profits of provincial enterprises could also be reduced by requiring that these corporations assume additional public-policy responsibilities. Alternatively, provincial corporations could be asked to provide services to local residents at a price below that required to provide a reasonable rate of return on invested capital.

To address these problems, it is necessary to develop a procedure by which to impute a reasonable tax base for public corporations. The intention would be to make the taxes that are owed by the corporation relatively insensitive to the sorts of actions described above. The problem arising from the relatively high debt ratio of public corporations could be addressed by simply defining taxable income to be a certain percentage of taxable income before deducting interest expense. As a result, income that is created by a new investment will be taxed at the same rate regardless of whether the investment is financed by debt or equity capital. In the case of monopolies, profits could be calculated on the basis of the appropriate opportunity cost of capital rather than the actual return to capital, which may be based on prices designed to subsidize local consumers.

Such a major change in the taxation system would, of course, require agreement by both levels of government. A significant transfer of revenues would be involved, and this is most appropriately analysed and discussed in the context of a full review of financing arrangements between the federal government and the provinces. We think the appropriate occasion on which to consider removal of the existing tax immunity for public corporations is the quinquennial review of federal-provincial fiscal arrangements. In the meantime, we strongly urge governments to accept, in principle, the desirability of removing current immunities that limit the taxation of public corporations.

Conclusion

This chapter has attempted to set out the elements of a framework that can realize the advantages of government enterprise as a distinct organizational form. Much of the focus has been on the practical problems involved in the direction and control of public corporations. The emphasis has been on the development of mechanisms that could address these problems and, at the same time, fit comfortably within a structure designed to promote effective accountability. This examination has led us to recommend an approach that differs in some important respects from current practice in most jurisdictions. In particular:

- Major emphasis has been given to the need for a clear specification of corporate responsibilities. The proposed "statement of objectives" would identify all imposed public obligations and make them a matter of public record. This would involve some significant changes from the existing situation. While the corporate plans required in some jurisdictions focus on corporate objectives, they are generally not sufficiently precise to resolve the conflicts between competing objectives. Corporate plans are not usually tabled in the legislature (although summaries are tabled at the federal level), and ministerial intervention that affects corporate objectives is not always a matter of public information.

- Greater importance has been placed on the role of the board of directors. If the delegation of powers that characterizes public enterprise is to be successful, good directors are required, and they must be provided with the powers necessary to discharge their responsibilities effectively. To increase the independence of public-enterprise boards, we have recommended that they not include ministers or public servants (as they generally do now) and that directors be appointed from among candidates put forward by an independent commission. We have proposed that boards' responsibilities be defined in terms of the statement of objectives and that boards' powers be expanded to cover, in particular, the hiring and compensation of senior management. At present, the power of boards is highly circumscribed. On many important issues, including the appointment of senior managers, boards tend to fill more of an advisory than a decision-making role.

- There has been an attempt to shift the emphasis from pre-decision to post-decision control mechanisms. This is also intended to clarify the responsibilities and strengthen the role of boards of directors. In most jurisdictions the board does not have final authority over an enterprise's corporate plan or capital budget, or over its operating budget if the firm is dependent on appropriations. To a large extent, these statements cover technical matters of the sort that fall within the general competence of managers and corporate directors. The requirement that these statements be submitted for approval undermines corporate responsibility for the relevant "technical" decisions. We have proposed that pre-decision controls be retained only for capital spending. In this case, moreover, we have proposed a differentiated approval process, in which investments intended to promote profit making would be subjected to a

modified review similar to that experienced by firms seeking financing in the private sector. Proposals that are rejected on the basis of commercial criteria could be resubmitted to a second "window," to be assessed in the context of the government's public-policy priorities.

In addition to these changes in mechanisms and institutions, we have stressed the need for a systematic approach to the monitoring and evaluation of public corporations. Effective post-decision control requires the development of a comprehensive information base that will serve to assure the government that the board is satisfactorily fulfilling its delegated responsibilities. The evaluation process should take account of not only the direct costs of public-enterprise activities but also the implicit subsidies not considered in the normal process of a budgetary review. The intent should be to highlight the choices available to the policy maker, particularly in terms of competing policies and alternative policy instruments. This, in turn, should contribute to the establishment of a ceiling on the level of costs to be incurred to support a specific activity (or set of activities).

Legislatures have a significant role to play as part of the regime of control and accountability. We generally support the recent reforms at the federal level that require Parliamentary authorization for the creation of new enterprises and the tabling of increased information on enterprise activities. The key to more effective legislative surveillance, in our view, lies in the use of specialized legislative committees and in examinations undertaken by the Auditor General to support the work of these committees.

Mixed enterprises, government-enterprise monopolies, and subsidiaries pose rather special problems. In the case of mixed enterprises, there are some severe constraints on the application of administrative controls. Monopolies pose the opposite problem: the need for an extensive set of administrative controls to address the problems usually associated with the delegation of powers and to compensate for the weakness of market forces. The control of public monopolies can largely be delegated to a regulatory commission, thereby relieving governments of some of this administrative burden. In some jurisdictions, subsidiaries have partly slipped through the net of controls applying to public corporations. Subsidiaries should not be created without Cabinet authorization, and they should not have powers greater than those of their parent.

In a review of the framework of rules and regulations applying to public corporations, consideration must be given to the special legal status of these corporations. In economic terms — and, to some extent, also on equity grounds — many of the special privileges and immunities available to government enterprises are difficult to justify. Particularly troubling is the tax immunity available to most provincial enterprises. These privileges and immunities are among the issues that should be addressed in the course of establishing a new framework that will appropriately define the role and status of these distinctive creatures of the public sector.

10 Conclusion

As a consequence of our history, our politics, our national values and beliefs, Canadians are heirs to a large and diverse public-enterprise sector. Public corporations are important participants in the production of commercial goods and services, and as a group they constitute a major component of the public sector. This will continue to be the case, even if federal and provincial governments proceed with their current plans for divestiture. The pressures for the creation of new public enterprises have abated somewhat over the last few years, but if history is any guide, one can expect that these forces will reassert themselves with increased intensity at some point in the not-too-distant future. Public enterprise provides a politically appealing response in a number of situations, and it will remain an important instrument of public policy in Canada. That being the case, governments face a number of important challenges over the longer term:

- To be able to respond appropriately to pressures for the creation of new public enterprises, governments must understand the *roles* that can and cannot be filled by this instrument.

- To realize the potential gains from an improved matching of policy objectives and policy instruments, governments must proceed with *privatization* and other forms of organizational reform. There is a need to ensure, however, that the potential gains are not lost through the privatization process itself.

- To benefit more fully from the use of public enterprise where it is the appropriate form of intervention, governments must amend existing frameworks for the *control* of public corporations.

The Role of Government Enterprise

The early proponents of government enterprise viewed it as a union combining the advantages of the public and private sectors.[1] Experience has fallen well short of those expectations. The marriage of government and business has, more often than not, been an unhappy one. Rather than having combined private-sector efficiency with democratic controls, public enterprises have at times reflected the shortcomings of an entity that was neither subject to the discipline of the capital market nor open to the light provided by legislative scrutiny.

Government enterprise is an important instrument of public policy. But to develop an appropriate perspective on the role of public enterprise, it is necessary to appreciate that we are talking about an instrument — a means not an end. The value of public enterprise derives from its ability to contribute to such goals as strengthening national unity, achieving higher living standards for Canadians, and establishing a more equitable distribution of income. It is also necessary to understand the limitations to which this particular form of intervention tends to be subject.

The entry of government into business raises a number of concerns. First, there are certain additional costs that would be incurred even if there were no difference in the performance of public and private firms. These have a few sources. There is a cost simply because of the fact that all Canadians are required to hold shares in public corporations. This involves a limitation of choice; individuals might be inclined to invest their savings very differently if they were free to do so on the basis of their particular tastes and preferences. Also, there is a cost in terms of the additional burden that public ownership imposes on the decision-making apparatus of the state. The scarce time of ministers and senior public servants must be drawn from policy making to overseeing the production of commercial goods and services. Whereas at the federal level the government is a major participant in commercial activities, the establishment and administration of the required control arrangements clearly constitute a major undertaking.

Second, there are those concerns which relate to the nature and effectiveness of control arrangements in the public sector. While the evidence does not indicate that public firms will necessarily perform commercial activities more poorly than their private-sector counterparts, it does suggest that public firms are vulnerable to certain problems. In particular, governments have not always introduced appropriate adjustments for the privileges — especially the favourable borrowing rates and (in the case of provincial enterprises) the tax exemptions — that public corporations enjoy. As a result, public firms operating in competitive markets have sometimes been at a significant advantage relative to the private firms with which they compete. Such preferences have also contributed to inappropriate pricing and investment decisions by public firms in monopolistic

markets. The evidence suggests that the pricing and investment practices of the electric utilities have been especially costly and are, in themselves, responsible for a substantial misuse of resources.

Public-sector control arrangements are weakened in some cases by serious monitoring problems. The ability of policy makers to superimpose one public-policy objective upon another has been an attraction of public enterprise but one that entails significant costs. The resulting accumulation of responsibilities has made the performance of some corporations exceedingly difficult to assess. Such monitoring problems can be expected to impact significantly on the efficiency of public as opposed to private production.

A further problem has arisen where government monitoring and control arrangements have conflicted with the freedom and flexibility required for commercial success. This problem has been most relevant to firms in dynamic and rapidly evolving industries where there is a need to respond promptly to often-subtle indications that market conditions are changing or that corporate strategy is not producing the results intended.

A third set of concerns arises where politicians and public servants come to see their own interests linked to the fortunes of a particular enterprise. This correspondence of interests can undermine monitoring — a concern that we cited in connection with some "entrepreneurial" corporations. It can also bias the policy-making process towards measures that are protective and supportive of the public corporation but that are undesirable in terms of the broader requirements for a competitive and dynamic industrial sector. Concerns about the influence of public ownership on the competitive environment arose in our examination of telecommunications and air transport. There was also some evidence to suggest that public-policy objectives with respect to electricity have been influenced by public ownership of the major utilities.

Some, but not all, of those problems can be alleviated through the establishment of improved monitoring and control arrangements. Some of the problems are inherent in public enterprise, and they will tend to make it a very costly form of intervention under certain circumstances. These concerns underline the need for a careful evaluation of public policies to ensure that the benefits exceed the costs of intervention.

When government intervention is warranted, public enterprise will be the preferred form of intervention where its advantages as a purveyor of public policy more than offset any disadvantages associated with the public production of commercial goods and services. We have identified a number of situations where this may apply.

First, there are some cases where government intervention is highly dependent upon the legal characteristics or symbolic attributes of this instrument. In these situations there may be no effective substitute for government enterprise. It is difficult, for example, to conceive of an alternative instrument that would have served the desire of provincial governments to exert influence in areas of transport and energy policy subject to federal regulation. Similarly, during Quebec's "Quiet Revolution," the creation of a large number of public corporations provided a relatively immediate and visible response to the desire of Quebecers to become "maîtres chez nous."

Second, and more important, are those situations in which government enterprise has "organizational" advantages over other forms of intervention.

Organizational Advantages of Government Enterprise

Public production may be preferable in certain situations because of the difficulty of negotiating and enforcing the required contractual arrangement with a private firm. At the same time, the pursuit of policy objectives may be linked to commercial production that cannot be efficiently undertaken, subject to the rules and constraints that apply to government departments.

In the situations we examined, contractual problems arose (or could arise) mainly because the government was "locked in" to dealing with a specific producer. This was the result sometimes of technological factors and sometimes of political factors. *Technological* factors are a major consideration in those cases of monopoly where a major investment in durable, highly specialized facilities is required. A long-term arrangement is required because of the nature of the production process, and government enterprise will, at times, be the most desirable form of such an arrangement. An additional contractual problem arises in the electrical sector because of governments' desire to use the utilities for objectives, such as economic stabilization, for which a substantial degree of ongoing policy direction is required. Government enterprise has appeal under these circumstances relative to the alternative of regulation.

Political factors are a major consideration in the case of bail-outs such as that of Cape Breton Development Corporation (DEVCO). Here, the pressures for the federal government to sustain the firm, along with the extent of the support required for a private producer, were such as to pose again a major contractual problem. Public ownership was preferable to an arrangement with a private firm, which would have left the govern-

ment highly vulnerable to opportunistic behaviour by private owners and managers.

In previous chapters we identified a number of other situations in which arrangements with a private firm could be especially problematic. Where the government has particular requirements of its own for advanced products or systems, as in defence, it will sometimes be less costly to fill those needs through public research and development than through a contract with a private firm. Government enterprise is not generally the optimal approach to rent collection, but it has been effective in some circumstances where this objective was complicated by conflicts with private firms in the industry or with other governments. Major contractual problems are also likely to be encountered when, in the context of its industrial policy objectives, the government is strongly committed to supporting a specific private firm — a "hidden Crown."

In some of these situations the best solution is not to enter into public production but to reformulate public-policy objectives so as to avoid the relevant problems. But while it may sometimes be feasible to redefine government objectives so as to provide policy makers with additional policy options, this will not always be possible or appropriate.

The organizational advantages of public enterprise do not extend to *mixed enterprises*. The sorts of contractual problems we have identified cannot be solved with a mixed enterprise. Where public-policy objectives involve difficult problems of contract negotiation and enforcement, these will similarly beset efforts to work out an arrangement between the government and private shareholders. If a mixed enterprise is not created directly but, instead, results from government share purchases, the attempt to impose policy objectives on the firm will impact more broadly; not only will minority shareholders of the mixed enterprise be affected, but shareholders of all private firms that are vulnerable to government share purchases will be subject to an increased degree of risk.

The possible policy role for mixed enterprises is, therefore, limited. It is only in some extreme circumstances, where private-equity markets may require support, that there may be a role for mixed enterprises. And in such circumstances government participation should be limited in amount and, to the extent possible, in duration.

Privatization

Our examination of selected public corporations has served to illustrate that there are many instances where the use of this instrument cannot be justified. In some cases public corporations have become less relevant, as the objectives that led to their creation have disappeared or declined in importance. Other public corporations were found to be fulfilling a valid policy role but one that could have been more appropriately addressed through a different policy instrument.

Privatization is, of course, only one form of institutional reform. Public corporations may simply be wound up — as occurred recently in the cases of a number of inactive federal corporations (i.e., Canada Sports Pool Corp., Loto Canada, and St. Anthony Fisheries Ltd.). Or the entity may be folded into an existing department of government. Under certain circumstances there will be gains from implementing each of the organizational changes. It will be beneficial to bring a public corporation under a departmental structure, for example, where its public-policy responsibilities are such that ongoing political direction is required and where these gains more than offset any losses associated with undertaking the accompanying commercial activities in a more restrictive and less businesslike environment.

Public discussion and debate, however, have focused particularly on privatization. This is appropriate since in most cases where restructuring is being considered, private production is the most logical and most promising alternative.

Gains from Privatization

Our intention in previous chapters was not to develop a comprehensive list of candidates for privatization but, rather, to confirm that there is scope for institutional reform and to illustrate the nature of the gains that may be realized. A number of possible gains from a carefully designed program of institutional reform were identified.

First, replacing government enterprise with a more appropriate instrument can result in a significantly improved level of public-policy performance. Objectives such as promoting exploration, encouraging R&D, and providing subsidized air service to remote communities can be pursued through subsidies or other short-term arrangements that incorporate the beneficial performance incentives associated with competitive-bidding arrangements. It may be possible to realize the advantages of such competitive arrangements even where an industry is a monopoly; where a major investment in long-lived, highly specialized assets is not required, as is often the case in urban transit, government enterprise will tend to be inferior to an arrangement involving competitive contracting.

Second, privatization may result in important gains in economic efficiency. These may come from improvements in the performance of the firm's commercial activities. It is reasonable to expect, for example, that firms in dynamic and rapidly evolving industries would achieve a higher level of performance were they free of the restrictions associated with public ownership. In this connection Table 10-1, showing the generally favourable profit performance of a number of U.K. companies following privatization, is of interest. To some extent, however, these profit increases may be a result of eliminating the firms' public-policy obligations.

Economic gains may also be achieved through improvements in market efficiency. In both air transport and rail freight, the central issue is not whether the major public carriers are more or less efficient than their private-sector counterparts but, rather, the relationship between public ownership and an environment that has substantially restricted the role of competitive forces in those industries. Increased competition is possible and desirable in air transport and in the carriage segment of the rail-freight industry. In both cases, organizational reform would be an important component of a more general policy of reform aimed at increasing competition and promoting greater responsiveness to market pressures.

Third, by transferring activities from the public to the private sector there should be gains in terms of the reduced demands on the decision-making apparatus of the state. As they are relieved of the burden associated with overseeing public corporations, ministers and government officials will be able to devote more attention to those functions which are central to the making and administration of policy.

Issues in Privatization

While there may be important gains to be realized from privatization, the process of divestiture, itself, is likely to raise a number of significant issues. If these are not appropriately resolved, the potential gains from privatization may be at least partly dissipated.

One danger is that governments will aim not at maximizing the social benefits from privatization but at realizing the highest possible price for the sale of a public corporation. These two objectives may be in conflict. In a number of cases, "sale values can be best maximized by limiting competition, by exempting the enterprise from competition policy or by framing the enterprise within the context of a sympathetic regulatory environment."[2] But a change in ownership under these conditions will not lead to a more competitive and efficient industry. Individuals will gain somewhat as taxpayers, because competitive restrictions will increase the price that can be realized from the sale, but they will lose a significantly greater amount as consumers.

Table 10-1

Profit Performance of Privatized Companies in the United Kingdom, 1981–85

	Pre-tax profit (loss) to financial year ending:				
	1981	1982	1983	1984	1985
			(£ millions)		
British Aerospace (1981)	70.6	84.7	82.3	120.2	. .
Cable and Wireless (1981)	64.1	89.2	156.7	190.1	245.2
Amersham International (1982)	4.1	8.5	11.2	13.7	17.1
National Freight Consortium (1982)	4.3	10.1	11.8	16.9	28.8
Britoil (1982)	437[1]	514	586	688	. .
Associated British Ports (1983)	(10.3)	5.5	14.5	(6.4)[2]	. .
Enterprise Oil (1984)	-	-	83.2[3]	138.5	. .
Jaguar (1984)	(31.7)	9.6	50.0	91.5	. .
British Telecom (1984)	570	936	1,031	990	1,480

NOTE Figures above the steps are post-privatization; those below the steps are pre-privatization, as of the last full year in the public sector.
1 Part of BNOC.
2 Effect of coal strike.
3 Eight-month figure only.
SOURCE All figures derived from Annual Reports and Accounts, as indicated in *Privatisation in the United Kingdom: Background Briefing*, Her Majesty's Treasury (London: February 1986).

The operation of market controls will also be impeded where privatization is accompanied by the imposition of certain restrictions on share ownership. In divesting itself of its holdings in Pacific Western Airlines, for example, the Alberta government incorporated ownership and voting restrictions in a special Act so as to ensure continuing broad ownership. Ownership restrictions may also be used to accord a preference to the residents of a particular jurisdiction or to prevent a corporation from falling under foreign control.

These restrictions can have a substantial effect on the efficiency of a newly privatized corporation. Where shares are widely distributed and there are strict limitations on the holdings of any individual or group, it will be very difficult for either dissident shareholders or outside interests to exert influence; a management and board that are performing inadequately may be very difficult to dislodge. The restructuring and rationalization that follows a takeover, moreover, may be essential to the creation of a more efficient enterprise.

Restrictions applied to foreign purchasers may similarly impact on efficiency. A foreign purchaser may be in the best position to restructure the corporation and bring about the needed increase in scale and specialization. A foreign acquisition may also be desirable where the alternative would be a domestic purchase that would result in a significant reduction in the degree of market competition.

Objectives that conflict with the requirements for economic efficiency can very often be met through other less costly alternatives. Arguments for limiting individual shareholdings, for instance, have been mainly based on concerns about concentration — concentration both within particular markets and within the economy generally. The *Combines Investigation Act*, as recently amended, however, provides a mechanism for reviewing proposed mergers that may have adverse implications for market efficiency. The Act addresses concerns about concentration within particular markets, not about the concentration of economic power in the economy generally. But as the Royal Commission on Corporate Concentration pointed out, it is very difficult to establish advance criteria to assess the impact of mergers and acquisitions involving major conglomerates. As the federal government will want to restrict foreign takeovers in select cases — as it can do under the *Investment Canada Act* — similarly it may want to reject the advances of particular domestic suitors where the resulting sale is seen to jeopardize the public interest. Safeguards in the form of ownership restrictions are inappropriate for this purpose. The decision to prevent or dissolve mergers involving major conglomerates "must be a political one, to be taken by government and Parliament in the light of the circumstances as they see them at the time."[3]

The social gains from privatization will be affected, as well, by the conditions attached to the sale of a public corporation. Where effective control is being sold, those entering the bidding may be asked to offer guarantees with respect to employment, local sourcing of supplies, and perhaps R&D. These requirements are likely to affect the earnings, and thereby the market value, of the corporation. It will often be the case that this represents a relatively costly and ineffective way by which to pursue employment and other policy objectives. As we have noted, these objectives tend to be amenable to general programs that will allow the government to select the most promising candidates for support and to terminate assistance if a firm no longer meets established criteria.

In the extreme case, where the sale incorporates a provision for ongoing subsidies in return for employment or other commitments by the new owner, the government could find itself in the type of undesirable contracting situation that is often cause for public ownership. In other words, divestiture could involve a net loss to society.

A change in the ownership of a corporation and the restructuring and rationalization that may occur either in preparation for, or as a result of, this ownership change could entail some potentially significant adjustment costs. An enlightened employer could be expected to follow certain practices to alleviate these transitional problems. In particular, governments should ensure that the terms of collective agreements and contracts with employees are respected, even where legislative guarantees do not apply or are ambiguous. Efforts should be made to ensure that workers are not penalized when their accumulated pension rights become the obligation of a new employer. Where rationalization or restructuring is required to prepare a firm for sale, governments should follow "best practice" in terms of providing adequate notice to any employees facing the prospect of layoff, offering appropriate compensation, and providing relocation assistance.

Besides its obligations to employees, a corporation will generally have certain outstanding commitments to creditors, to suppliers, and often to customers. These will also be a matter for negotiation between the government and prospective purchasers. Loan arrangements will generally have to be renegotiated to reflect the higher risks associated with private ownership.[4] While the government could continue to stand behind the corporation's outstanding loan obligations, this could lead to significant ongoing problems, as we saw in Chapter 6. The potential importance of other guarantees is illustrated

by recent negotiations for the sale of the Urban Transit Development Corporation (UTDC). A main sticking point in these negotiations was the performance guarantees that UTDC had provided to its U.S. customers, which (in conjunction with the more limited guarantees in UTDC's contracts with its subcontractors) were seen to constitute a substantial corporate liability.

Establishing a Sale Price

Evaluating a public corporation for the purposes of establishing a sale price can be a particularly difficult and troublesome exercise. The U.K. government, for example, has tended to set fixed prices for its share offerings well below their subsequent trading value (Table 10-2). Where it did not set a fixed price but asked investors to submit tenders at or above a minimum price, the government also experienced problems.[5] The minimum price for Britoil shares, for example, was set too high, and investors initially subscribed for only a third of the offering.

Table 10-2

Discounts in the Initial Sale Price of U.K. Public Corporations

	Discount[1]
	(Per cent)
With fixed prices set:	
Amersham International	35
Associated British Ports	98
British Aerospace	15
British Petroleum	6
British Telecom	91
Cable and Wireless	15
Jaguar	8
When open to tender.	
Associated British Ports	−2
British Petroleum	3
Britoil	−21
Cable and Wireless	−3
Enterprise Oil	2

1 The discount is measured by the change in price from the issue price to the closing price after one week's dealings and after allowing for marketwide share-price movements.

SOURCE From J.A. Kay and D.J. Thompson, "Privatisation: A policy in search of a rationale," *The Economic Journal* 96 (March 1986): 18-32.

Where a public offering is taken up primarily by residents of the particular jurisdiction, an underpricing (overpricing) of the initial share price results in a gain (loss) for resident investors at the expense (to the benefit) of the public treasury. Although what is involved is essentially a transfer and one that takes place, in this case, among citizens of the same jurisdiction, it would be wrong on this basis to dismiss the significance of the pricing issue. Clearly, individuals feel strongly about the need for offering prices that reasonably approximate fair market value. Prices that lead either to windfall gains or to major losses will reflect poorly on the government and on the program of privatization.

Where a government enterprise is to be sold through a public share offering and substantial valuation problems exist, we believe there is considerable merit in issuing the shares in stages. The purpose is to provide the government with some guide as to the market value of the shares being offered. By bringing forward a small initial offering and gauging the reaction in the aftermarket, the government will at least have some basis for setting the share price in subsequent offerings. The risk that the major portion of shares will be issued at prices that are very wide of the mark is thereby reduced.

If the market reaction to the initial offering is to provide a reasonable indication of how the market would respond to a 100 per cent share offering, however, it is necessary that continued government ownership in the interim not be seen as a major detriment to the earnings potential of the enterprise. Investors must be convinced that the government is engaged in a process of privatization and that this will result in 100 per cent divestiture in the near future. And they must be assured that in the interim the government will not take advantage of its position of control to impose new public-policy responsibilities on the corporation. The government must defer to the authority of the corporation's board and be scrupulous in its dealings with the corporation throughout the interim period.

Improving Accountability and Control

Efforts should be devoted not only to organizational reform but also to ensuring that those enterprises which do have a legitimate role and will continue to exist are utilized to their best advantage.

An appropriate regime of accountability and control must reflect the distinctive organizational features of public enterprise. Public corporations have been advantageous in those situations where it is difficult for the government to enter into a contractual arrangement with a private firm; a control system that attempted to replicate the formal and well-defined relationship between a government and a private firm would undermine this advantage. On the other hand, there are benefits from the public corporations' arm's-length relationship with government and their freedom from a number of the limitations that apply to government departments; a control system that jeopardized this autonomy

would also risk the loss of some important organizational benefits.

The federal government and the provinces have tried various approaches to the control of public corporations, and some significant changes have been introduced in recent years. Our examination suggests, however, that further reforms are necessary. By and large, governments have taken advantage of the flexibility provided by public, as distinct from private, production. They have been less successful in realizing the benefits from the delegation of responsibilities to a quasi-independent entity within the public sector.

A major requirement, in our view, is a clearer and more rational division of responsibilities between government and the boards of public corporations. Where responsibilities are unclear, there cannot be effective accountability. And where accountability is weak, there will be little incentive for a high level of performance. While ministers must provide the required policy direction, responsibility for the administration of corporate activities should properly fall to the board of directors. The board must in turn be given sufficient power to discharge this responsibility effectively.

We have proposed that the responsibilities of the corporate management and board be clarified through a government document that we call a "statement of objectives." This would identify all imposed public obligations and resolve any conflict between corporate objectives. The statement, including any amendments, would be tabled in the legislature and be a matter of public record.

Directors of public corporations have a vital role in the regime that we are proposing. To contribute to the prospect of higher-calibre and more independent-minded directors, we have proposed that directors be appointed from among candidates put forward by an independent commission. We believe that boards should not include ministers or public servants; the exclusion of these groups will enhance the independence of the boards and reduce the danger of conflicts of interest. To carry out their responsibilities effectively, boards must, in our view, have final authority over the hiring and compensation of senior management.

The role of public-enterprise boards is also reduced under current practice in most jurisdictions by requirements for final ministerial authorization of most major initiatives, even where these might be considered to involve, to a large extent, administrative or technical matters. We propose a shift in emphasis from pre-decision to post-decision control. Where pre-decision control should be retained — namely, for capital investment decisions — we believe it can be modified so that it will impinge much less than at present on corporate responsibility for technical and commercially related matters.

Assurance that the board is effectively discharging its responsibilities should come from the monitoring of corporate performance. There is a challenge in establishing an efficient system for gathering and assessing information on corporate performance, and this is an area that merits some attention in each jurisdiction. In addition, however, we have stressed the role that a systematic process of evaluation can play as a "backstop" to the monitoring system. After evaluating objectives and considering alternatives, governments should establish a ceiling on the costs to be incurred to support various noncommercial activities. In this case, even if there are important forms of waste and inefficiency that escape detection, ministers can be assured that a reasonable price is being paid in the pursuit of particular public-policy objectives.

The success of a control system depends on the accountability of not just the corporate managers and directors but also the public servants and ministers who oversee the activities of public corporations. Legislatures can make an important contribution to ensuring that procedural requirements are followed and that the "rules of the game" are respected. We believe that specialized legislative committees provide a useful forum for the examination of public-enterprise activities. Federal and provincial auditors can support the work of these committees and contribute to more-effective legislative scrutiny.

Special control arrangements are needed for government-enterprise monopolies and mixed enterprises. The existence of private shareholders severely limits the nature of the controls that can be applied to mixed enterprise. On the other hand, very extensive public surveillance is both possible and desirable for monopolies. Regulatory commissions can contribute to the control of monopolies, although a government's desire to provide direction in certain policy areas may limit the responsibilities that can be assigned to a commission.

The Task Ahead

Our examination of government enterprise has taken us down two broad avenues of inquiry. It has required us to broach the general question of how governments can best pursue various public-policy objectives. It has also led us to consider certain aspects of the productivity and competitive performance of important sectors of the economy. In a number of cases the critical policy issues were found to extend beyond the bounds of government enterprise. In a few sectors, for example,

we have pointed to the need for a general strategy of reform designed to reduce government protection and increase the role of market forces. Privatization would be a component of this strategy, but it would not in itself produce the gains expected in market efficiency.

At the same time, however, our examination illustrates that there are important gains to be realized from reforms centred on public enterprise. Many public corporations have outlived their usefulness. The control mechanisms in place in various jurisdictions do not allow the potential of this instrument to be fully exploited. There is considerable scope for institutional reform and for improvements to existing frameworks for the control of public corporations.

While public enterprise has played a unique and important role in the development of this country, Canadians should not be enslaved by their history. There is a need to examine the relevance of individual enterprises in the context of this country's present social and economic needs. It is important, moreover, that such inquiries and the larger public debate of which they are a part be informed by a realistic view of the potential, as well as the limitations, of government enterprises. It is our hope that this document will contribute to the level and quality of that debate.

Dissent

By K. Kaplansky, D. Bellemare, and P. Fortin

What governments should produce or should do, and how they should achieve their objectives, are certainly legitimate questions, and no one would quarrel with the need to evaluate, adjust, or even change past decisions. As those questions, however, relate to the role and functions of the state, they require political or qualitative answers and certainly not a unique prescription or advice from economic analysis alone. Economic calculation is just too narrow an exercise to incorporate all the issues at stake, for most of them are not reducible to quantitative evaluation. Most objectives pursued in the public domain, such as equity, national integration, economic security, and culture, involve value judgments because of their qualitative nature or because, like economic development, they imply social costs or benefits that are by their very nature difficult to evaluate. Obviously, economic analysis is not exempt from having to make value judgments.

Indeed, economic analysis has its limitations and its biases, and nowhere do these show up more than in the subject area of this report. Unfortunately, the conclusions opted for by the Economic Council in this report emerged from narrowly based economic analysis and trendy neo-conservative views.

Even though the framework for analysis enunciated in Chapter 3 does appeal to common sense, the applications derived from it depart from the initial intent in the chapters dealing with specific government enterprises. Instead of taking as a political choice the objectives pursued by the different government enterprises, the report often proposes to question the original goals. In some instances it proposes abandonment of an objective on the ground that it is too costly, even though many of the costs and benefits are nonquantifiable. As an alternative, it then recommends following the private-enterprise route. But in doing so, the report throws the baby out with the bath water.

The recommendations behind this study should not surprise anyone, since they are the product of analysis based on a theory that has gained popularity since the 1960s and that is aimed at reducing the role of the state. Even though the established theory dating back to 1776 may have its shortcomings and could certainly be enriched, it should not be condemned to scrap, as it has been by the new economic theory. For this reason, we cannot accept the general tone of the report and, in particular, the recommendations for privatization of Air Canada, Petro-Canada, and urban transit, or the dismantling of CN.

The recent financial collapse of so many carriers in the United States as a result of deregulation should serve as a warning to those eager to dismantle and privatize Air Canada. And the near-chaos conditions in the world oil market, as well as the serious crisis facing our own oil industry, fully justify the original decision to create Petro-Canada as a potent factor in preserving, expanding, and protecting Canada's energy resources. There is certainly no assurance that a situation similar to that of the 1970s will not return.

Privatization of urban transport could lead to chaos. It would probably raise the costs to customers, undermine the quality of services on routes that cannot be self-financed, and lead to congestion and urban pollution. Neither can we support the undermining of the functions of Canadian National Railways by granting private firms "liberal access" to the existing roadbed.

In the area of government enterprise as a tool for industrial policy, the report does not produce any specific recommendations. It does suggest, however, some limitations to the powers of the state. We do not understand how it would be more efficient to limit the powers of the state in the domain of economic development. Markets have not yet proven that they, by themselves, can eradicate regional disparities. We do not believe that these recommendations necessarily follow from even the selective evidence presented in the body of the report. Rather, they reflect the value judgment of orthodox economic training in favour of the market and of private-sector activities.

Other authorities note the fact that impersonal markets ruled by an invisible hand for the betterment of society do not exist. Instead, markets are concentrated and organized into holdings that can exercise considerable political influence but not necessarily in the public interest. Privatization, therefore, does not de-politicize public decisions. On the contrary, it merely shifts decision making with political implications from the public to the private domain.

We note also that the report had to limit the scope of its examination and that it states that its major recommendations for privatization are of an illustrative nature. Yet we cannot help but wonder why it backed away from making any substantive recommendations regarding a number of other federal and provincial government enterprises for which the evidence presented seems to be similar to that used to back the suggested treatment of the "high-visibility" corporations.

It may be that this bias in the report faithfully reflects the majority opinion of present decision makers in the United States. But this is not the United States. Canada has had many far-sighted people in all of its major political parties and in both the federal and provincial governments who realized that, for a variety of reasons, this country required a greater degree of government activity than our neighbours to the south have, on the whole, been prepared to accept. These reasons include our different physical and climatic environment, our relatively small population scattered over a wide area, and even our different social mores. While we agree that we should not be "enslaved" by our history, as the report concludes, neither should we forget the lessons of that history and dismiss cavalierly the roles played by government enterprises in the formation of this country or their potential to implement worthwhile nation-building objectives in the future.

It is true that we must always be prepared to examine the costs and benefits of this form of enterprise, as well as to monitor the debilitating effects of patronage and waste. But the evaluation process used in the report is not exactly objective. Many noted economic authorities in this country and elsewhere place a higher value on certain roles played by government enterprises than do the authors of this report. Such roles take into account, for example, the need for a government to keep open "a window on the industry" and to have essential and effective tools in the overall direction of the economy.

True, the report rather grudgingly admits that, in principle, government enterprises may, under certain circumstances, prove to be useful to the country. But this recognition is made meaningless by the recommendations to privatize Petro-Canada and Air Canada, as well as urban transit. We also interpret the rail freight options presented in the report as the beginning of a process to dismantle Canadian National Railways. All of these companies stand for the public weal in the commanding heights of the economy. After these are privatized, what is left of federal government enterprises? On balance, therefore, the report opts — on very questionable grounds — for privatization as the ultimate solution.

Nor can we accept the suggestions that many of our politicians or public servants are governed only by self-interest or that government enterprises are intrinsically less efficient than their private counterparts. There are too many examples of self-interest on the part of private management vis-à-vis shareholders and of long-undetected inefficiencies in private firms. The report speaks of the discipline of the capital market, but, again, many recent events, too numerous to be listed here, make one wonder just how effective that description really is.

Neither can we accept the suggestion that the scrutiny of public enterprises need necessarily be less effective than that of private enterprise. It may well be that such scrutiny can be improved — although that too is required in the private, as well as the public, sector — but public scrutiny is already a much more open and above-board process than the deliberations of private boards of directors or private auditing. Neo-conservative economists appear to trust more the invisible and difficult-to-identify hand of market forces than the highly visible hand of government, which could be more easily monitored, provided, of course, that there was the political will to do so. The private sector rarely has the limitations placed on self-seeking operations that can be, and frequently are, imposed by effective opposition parties and the ever-watchful news media.

Nor do we understand how the report can be almost silent on the potential negative effects of the privatization of large government enterprises on productive investments and employment. In times of high unemployment, the economy needs investment in new productive capacities. If the financial markets are inundated by the process of privatization, what level of new investment can we expect?

The report, by singling out such high-profile enterprises as Air Canada and Petro-Canada as candidates for privatization, questions the whole concept of government enterprises. The proponents of such enterprises, the advocates of a "mixed" private/public economy, view the public sector as a partner of private enterprise, but with a different function. Its purpose is to mitigate the adverse consequences of the competitive market economy, such as regional disparity, excessive cyclical swings, and massive unemployment. Many public enterprises were established for the purpose of promoting economic growth, but unlike most private enterprises, they aim to lessen some of the adverse effects of such growth as well as to achieve worthwhile social and national objectives. It is an illusion to separate economic growth from such considerations.

Despite some occasional breakdowns and shortcomings, often resulting from international factors and com-

mon human failings that affect the private sector as well, the concept of a "mixed economy" is far from dead in most democratic societies, Canada included. It is still a potent and viable alternative to stultifying total state ownership on the one hand and the neo-conservative rejection of anything but an absolute minimum government involvement in the management of the economy on the other. Surely the history of the past century, the lessons of the "Great Depression" and repeated international crises ought to teach us that a democratically based government needs a variety of levers to protect the health of a society and, at the same time, to foster private initiative and individual freedom in the face of potential threats posed by unconstrained and frequently manipulated "market forces."

Finally, we can only repeat here the concluding words of a former Council member, Harry W. Arthurs, now President of York University, in his dissent on the Council's study on deregulation:

> In the final analysis, I have taken the liberty of recording my views separately, and in perhaps overstated language, because I feel the ... debate is too important to be consigned to consensus. Consensus is, of course, our preferred way and is, perhaps, the right way to dispose of practical political controversies. But it is not necessarily the best way to inform public debate and stimulate intellectual inquiry, functions which are, I feel, this Council's most worthy contributions to the country.

Recommendations

We recommend:

1 THAT publicly owned electrical utilities be monitored closely by independent commissions that would (a) regulate prices; and (b) advise governments on capital expenditures. These commissions should focus particularly on the possibilities for improving efficiency; on effectiveness in achieving multiple objectives; and on whether, and to what extent, expansion of capacity is warranted.

2 THAT the governments of Manitoba, Saskatchewan, and Alberta reduce regulatory restrictions that limit competition in telecommunications, so as to remove the disparity that exists between these provinces and those jurisdictions subject to federal regulations.

3 THAT the relevant regulatory authorities in Alberta, Saskatchewan, and Manitoba strive more intensively to identify the costs of particular services of public telephone companies, so as to ensure that their competitive activities are not being subsidized by their monopolistic activities. If such efforts should fail, however — and the experience of similar regulatory boards is not promising in this respect — we would urge the governments of the three Prairie provinces to consider, as a longer-run strategy, the possibilities for divestiture of the competitive activities of their telephone companies.

4 THAT in the light of evidence of significant economies, provincial and municipal governments actively explore the opportunities for urban transit to be supplied by private firms. In particular, provincial governments should redesign subsidy programs that discourage contracting arrangements.

5 THAT in developing policies to promote competition in rail freight, consideration also be given to creating opportunities for new entry into the rail-carriage segment of the industry. The implementation of this expanded approach would require that new firms that meet certain basic requirements be granted authority to engage in rail carriage and that they be provided with liberal access to the existing roadbed.

6 THAT the much-needed reforms proposed in Bill C-97 (tabled in the 1st Session of the 33rd Parliament) be combined with policy changes (described more fully in Chapter 9) that would expand the authority of the VIA board and increase its ability to achieve the objectives specified in the Bill. We would also encourage VIA Rail to consider carefully competitive tendering as a preferred option for reducing its current reliance on CN and CP.

7 *To ensure that the gains from a deregulated airline are fully realized,*
THAT Air Canada be privatized. Divestiture should, however, await passage of the proposed revisions to the *National Transportation Act*, so it does not affect the introduction of these important reforms. The corporation should be sold through a broad share offering made initially only to Canadians, but no specific legislative restrictions should be placed on individual shareholdings.

8 *Given that it is not now fulfilling an important public-policy role,*
THAT Petro-Canada be privatized. The corporation should be sold through a broad share offering made initially only to Canadians, but no specific legislative restrictions should be placed on individual shareholdings.

9 THAT governments table a statement of objectives for each public corporation under their jurisdiction. This statement should attempt to clarify government expectations with respect to the provision of noncommercial services and to resolve possible conflicts among noncommercial objectives and between commercial and noncommercial objectives. The statement should be subject to a regular, periodic review — preferably annually — and to a major re-evaluation at least every three to five years.

10 THAT the legal responsibility of the board of directors of public corporations be the same as that of the board of a private corporation under the *Canada Business Corporations Act*. The "interest" of the corporation, as discussed in the Act, should be equated with government objectives, as set down in the "statement of objectives."

11 THAT outside directors of public corporations be appointed by the government concerned, from among the candidates put forward by an independent commission. Boards of public corporations should not include ministers or public servants from the parent government.

12 THAT an agency located within one of the central management departments of government be given responsibility for approving all commercial investment proposals by public corporations under its jurisdiction. The agency would assess competing proposals on the basis of commercial criteria, especially the appropriate opportunity cost of capital. Those proposals which are unacceptable by commercial criteria but which might serve other objectives should be submitted to the minister of the relevant line department, to be assessed in a more general policy context.

13 THAT a thorough process of evaluation be undertaken prior to the creation of a public corporation or the establishment of a new public-policy objective for an existing corporation and on a periodic basis thereafter. The evaluation process should attempt to weigh:

a) the specific public-policy objective against competing claims on the government's budget; and

b) alternative instruments for achieving that objective.

Furthermore, the evaluation process should pay special attention to the establishment of an acceptable level of costs associated with a particular activity, where those costs include not only direct subsidies but also the implicit public subsidies that are not customarily considered in the process of budgetary review.

14 That Cabinet approval be required for a public corporation to create or acquire a subsidiary. The powers of a subsidiary should not be greater than those of the parent, and wholly owned subsidiaries should be subject to the same control mechanisms as their parents.

A Financing and Investment Considerations

In Chapter 9 we speak primarily of institutional mechanisms for making and monitoring the decisions of government corporations. This appendix proceeds to consider the principles these institutions should apply in assessing, first, investment and, second, the manner in which investment is financed. Of course, these questions are central to the existence of government enterprise. From previous chapters, many of the valid arguments for government enterprise pertain to capital. In particular, transactions failure — the inability of government to contract with private producers — is often the result of extensive fixed capital. Similarly, a major jurisdictional impetus for provincial government enterprise is the desire to avoid federal taxes on the income from such capital. Consequently, government enterprise tends to be concentrated in capital-intensive industries, both in Canada and in other countries.

Criteria for Investment

Ultimately, any investment, private or public, can be justified only if the expected benefits exceed the anticipated costs. Clearly, this rather obvious dictum conceals a host of difficulties. Many of these are particularly severe for government enterprise. For example, the comparison of social benefits and costs, which are often not valued in markets, is obviously problematic. Such outputs frequently characterize the social mandates of public enterprise. It is primarily for this reason that Chapter 9 suggests that departments be given the right ultimately to approve enterprise projects that are not financially viable. As well, the fact that capital investment by public enterprise tends to be particularly long-lived poses the very difficult problem of long-term forecasting, both of prices and costs. Moreover, this extended time frame raises further problems of comparison: the need to compare costs and benefits that are incurred in widely separated time periods. The interest paid or earned on funds between any two points in time represents the relative value or opportunity cost of resources transferred at the margin between the two periods. A positive interest rate implies that future goods are worth more than present goods, and comparing the two requires that the former be discounted accordingly. Calculating the appropriate interest rate for use in assessing public projects is a question honoured by economists with much debate.

The essential problem is one of choosing among interest rates. For various reasons, the relative worth of present and future goods is not the same for all participants in the economy. Accordingly, the net benefit of a long-lived public-enterprise project will depend on the source of the funds drawn to finance it. Economists usually respond to this problem by establishing a discount rate that is a weighted average of three rates: the cost associated with lowering current consumption, the return forgone on private-sector investment, and the cost of borrowing in foreign capital markets. The weights reflect the extent to which public investment draws resources from each of the following: domestic consumption, private investment, and foreign borrowing.[1]

As well as reflecting the source of capital, interest rates rise with the riskiness or variability of future returns. But it is only the systematic riskiness of returns that affects rates. "Systematic riskiness" refers not to the returns from a project taken alone, but to the project's impact on the sum of future returns provided to an investor. That is, when projects are pooled in a portfolio, variation in the outcome of one project may contribute very little to systematic risk if it is likely to be offset by variations in the return from others.[2] As well, under common assumptions about risk aversion, even where a portfolio is systematically risky, the greater the number of recipients among whom the risk is spread, the lower the interest rate required to compensate for such risk. Both pooling and risk spreading are achieved privately, in financial markets; mutual funds and joint ventures between companies play this role to a degree. There are, however, inevitable costs and limitations associated with these markets — particularly with respect to risk spreading. To the extent that the government is able to spread risk more extensively, interest rates used to discount public projects should perhaps be less than private rates. An offsetting consideration is the fact that government may spread risk only by requiring that all taxpayers participate, some of whom might have no desire either to save or to assume risk.

In fact, rather than earning an optimal rate of return, government-enterprise investment is often undertaken if it is able merely to cover financial costs. We return briefly to this question below. First, we consider what can be said about the optimality of government-

enterprise debt/equity ratios, one of the major determinants of financial costs.

Criteria for Capital Structure

Regardless of the level of fixed assets, how should public corporations structure the corresponding liabilities? Almost uniformly, government enterprise operates with far higher debt and correspondingly less equity than is characteristic of private business. Indeed, some corporations, established by special statute, exist without equity at all. Practice in this regard reflects the distinct environment of public enterprise. That is, in the private sector, greater leverage increases the possibility of bankruptcy and reduces both the quality of, and access to, debt. Usually debt holders have recourse only to the assets of the company, not to other assets of the shareholders. By contrast, the debt of public companies held by private investors generally receives government guarantees. Even where this is not so, it is widely believed that governments will not allow public corporations to go bankrupt. Thus the quality of public-corporation debt is essentially that of other public-sector debt, determined not by a corporation's assets and equity, but by the capacity of taxpayers to sustain potential losses. As a consequence, not only do public corporations in Canada use more debt than private corporations; they usually pay lower interest rates as well.

Efforts to determine optimal debt ratios for private enterprise are largely inapplicable to public corporations. For the most part these calculations begin with the premise that debt ratios should maximize the market value of the corporation. From this vantage the optimal level of debt is established by trading off a number of costs — for example, the costs associated with bankruptcy from having too much debt — against the taxes that corporations must pay on income from equity. Both these considerations are largely absent for public enterprise. This has already been noted for bankruptcy. As well, most public corporations pay no taxes whatsoever, or they pay them only to their own public shareholders. But even the underlying premise — maximizing market value — is irrelevant. Shares in public corporations do not trade; their "shareholders" are unable to realize the value of any equity they hold. Thus the governing principle should be similar to that for public debt.[3] For distributional equity, shareholders or taxpayers should not be required to pay for assets that they do not use or on which they do not earn income. Thus assets should be financed by debt. This is at least broadly consistent with the greater reliance on debt by public corporations.

Of course, these considerations apply only to debt that the corporation owes to the public. When, as is often the case, the debt, as well as the equity, of public corporations is held by government itself, the split between the two has no importance in this sense. In other words, whether it is called equity or debt, all the corporation's capital is supplied by government, and the entire return to capital is paid to government. Under these circumstances, the distributional stricture about financing assets with debt applies to the manner in which government itself raises capital for the corporation: this should come from debt rather than taxes.

This discussion abstracts from issues of control. The use of debt, however, can also affect the efficiency and control of public enterprise. In this context it does not matter whether the debt is held privately or publicly. There are two related aspects to this question: the impact of debt and equity on the exercise of political oversight, and the impact on the behaviour of managers.

As for the political aspect, it is often suggested that corporations that incur losses assume much higher political visibility than profitable ones. Accordingly, switching debt — which requires that payment of interest be charged against income — into equity (which has no such requirement) can have a political impact simply by ending accounting losses. Of course, in real economic terms, there is little to choose between the two options; insufficient earnings on equity represent just as great a loss in terms of forgone opportunity.

Despite this, it is not difficult to see instances of this political effect. The conversion of CN and Air Canada debt into equity has reflected, in both cases, the desire to avoid annual parliamentary scrutiny of appropriations to cover losses.[4] Chapter 5 noted the care that both corporations took to avoid running losses. Similarly, the capital provided Petro-Canada to enable it to expand into production, marketing, and refining was justified, in part, as being necessary to make the corporation self-sufficient. Indeed, in many jurisdictions, including federal, the control regime that applies to corporations that habitually create losses and require additional capital is formally different from the one for those which do not. Historically, this stems from parliamentary control over appropriations. The federal Auditor General recently argued for closer parliamentary scrutiny of what are termed "tax expenditures." The point could equally well be made about earnings expenditures — the less-than-commercial return on the equity of public enterprise.

The choice between debt and equity affects the behaviour of managers as well. In the first place, it is sometimes argued that recurring losses are bad for corporate morale.[5] If so, the use of less debt might produce a substantive, positive effect. For this to be so, it must be true that low earnings on equity are less

destructive of morale. Morale aside, greater equity probably provides managers with flexibility and with opportunities to forgo earnings, either through inefficiency or through applying corporate resources to cultivate political support. Thus, for a period, Air Canada subsidized unprofitable fares only to the extent that it was able to stay within the no-loss constraint already mentioned.[6] This effect, of course, is essentially the obverse of the political impact of the debt/equity ratio described above. In other words, if political oversight declines and if no earnings or dividends are required on equity, how do managers respond?

A related effect of the choice between debt and equity, as well as the return earned on each, concerns the optimality of investment for public enterprise. The question of appropriate interest rates for judging investment was discussed above. In theory, governments could simply specify that their corporations meet tax standards. In fact, investment is often judged on the basis of its ability to provide a return that will exceed the corporation's financial costs. As such, it is measured against a standard that is too low.[7] The reasons for taxes have largely been noted already. Compared with private corporations, public corporations pay low interest rates on debt because of government guarantees. Moreover, whereas for private corporations, access to debt is limited, for public corporations, it is not — again, the result of public guarantees. Private corporations must earn a greater rate of return on equity than debt to compensate for financial risk, at least if they wish continued access to new equity in financial markets without diluting the holdings of existing shareholders. In public corporations, it often seems that little or no return on equity is required. Since decisions to invest ultimately determine the size of corporations, all these implicit subsidies to capital can lead to overexpansion by government enterprise and to unfair and inefficient competition in markets for both inputs and outputs.

B Statistical Summary

Table B-1

Federal and Provincial Government Enterprises: Statistical Summary[1]

	1983		Average, 1980-83		
	Government ownership[2]	Assets[3]	Revenue[4]	Revenue/ expenditure Ratio[5]	Total debt 1983[6]
	(Per cent)	($ thousands)			($ thousands)
Federal enterprises:[7]					
Air Canada	100	2,190,567	2,236,958	1.0150	1,092,495
Atlantic Pilotage Authority	100	1,907	5,109	0.9650	586
Atomic Energy of Canada Limited	100	1,285,284	520,104	0.7675	845,408
Canada Deposit Insurance Corporation	100	1,156,505	37,287	21.2675	835,266
Canada Development Corporation	36	7,558,600	3,335,384	1.0200	4,876,800
Canada Development Investment Corporation[8]	100	. . .	. . .	. . .	. . .
Canada Harbour Place Corporation[9]	100	34,759	-	-	-
Canada Lands Company Ltd.[10]	100	. . .	. . .	. . .	. . .
Canada Lands Company (Mirabel) Limited[11]	100	4,795	6,086	0.5700	-
Canada Lands Company (Le Vieux-Port de Montréal) Limited[11]	100	1,810	188	0.0200	-
Canada Lands Company (Le Vieux-Port de Québec) Inc.[11]	100	11,000	193	0.0100	-
Canada Mortgage and Housing Corporation (General Fund)	100	10,498,839	931,698	0.9925	10,159,950
Canada Mortgage and Housing Corporation (Insurance Fund)	100	358,385	61,494	0.2650	298,980
Canada Museums Construction Corporation Inc.[9]	100	15,470	-	0.0000	-
Canada Ports Corporation (National Harbours Board)	100	445,843	172,811	1.2600	186,770
Canada Post Corporation	100	2,403,485	1,861,981	0.8700	-
Canadair Limited[12,13]	100	276,728	304,976	0.7025	1,186,966
Canadian Arsenals Limited[13]	100	88,885	72,848	1.0875	3,500
Canadian Broadcasting Corporation	100	638,780	161,073	0.1925	33,000
Canadian Commercial Corporation	100	382,500	3,016	0.1850	-
Canadian Film Development Corporation	100	7,924	406	0.0575	54
Canadian National Railway System	100	6,789,765	4,165,770	1.0025	2,365,870
Canadian Patents and Development Limited	100	1,687	1,632	0.8450	-
Canadian Saltfish Corporation	100	18,340	47,589	1.0050	14,106
Canadian Wheat Board	100	4,296,821	3,750,504	1.1825	2,494,327
Canarctic Shipping Company Limited	51	22,104	5,770	0.5775	26,239
Canertech Inc.[15]	100	30,965	5,470	1.0533	3,430
Cape Breton Development Corporation (Coal Division)	100	338,714	141,052	0.7325	11,368
Cape Breton Development Corporation (Industrial Development Division)	100	21,244	4,604	0.3325	27
Crown Assets Disposal Corporation[14]	100	6,752	4,505	1.0200	-
De Havilland Aircraft of Canada Ltd.[12,13]	100	251,774	235,689	0.6775	285,890
Defence Construction (1951) Limited	100	1,037	430	0.0400	-
Eldorado Nuclear Limited[12]	100	915,205	117,082	0.9175	558,157
Export Development Corporation	100	6,974,267	462,381	1.0275	4,887,347
Farm Credit Corporation	100	4,901,222	378,842	0.9700	4,615,454
Federal Business Development Bank	100	1,615,873	269,006	0.7750	1,340,894

Table B-1 (cont.)

	1983		Average, 1980-83		
	Government ownership[2]	Assets[3]	Revenue[4]	Revenue/ expenditure Ratio[5]	Total debt 1983[6]
	(Per cent)	($ thousands)			($ thousands)
Federal enterprises (cont.)					
Fishery Products International Ltd. (*125459 Canada Ltd.*)	63	..	..	..	..
Fraser River Harbour Commission	100	32,354	6,833	2.7550	-
Freshwater Fish Marketing Corporation	100	23,304	39,820	1.0075	18,820
Great Lakes Pilotage Authority, Ltd.	100	3,938	9,786	0.9650	-
Halifax Port Corporation[16]	100	-	-	-	-
Hamilton Harbour Commission	100	34,346	6,664	1.1675	1,376
Harbourfront Corporation	100	9,776	4,340	0.3800	-
The Jacques Cartier and Champlain Bridges, Inc.[17]	100	27,806	6,295	0.5700	66,242
Laurentian Pilotage Authority	100	5,161	22,593	0.9925	100
Loto Canada[18]	100	15,383	1,780	4.4550	-
Mingan Associates Ltd.[19]	100	..	..	..	..
Montreal Port Corporation	100	213,617	35,259	1.5300	141,949
Nanaimo Harbour Commission	100	18,395	4,869	1.3075	-
National Arts Centre Corporation	100	13,737	9,661	0.4675	187
Nordair[20]	87	109,827	139,154	1.0275	23,721
North Fraser Harbour Commission	100	5,433	2,644	1.2750	-
Northern Canada Power Commission	100	270,419	72,613	1.0450	249,865
Northern Transportation Company Limited[21]	100	76,031	45,318	1.1125	30,740
Oshawa Harbour Commission	100	3,909	616	1.1950	-
Pacific Pilotage Authority	100	4,484	15,438	1.0150	157
Pêcheries Canada Inc.[22]	100	-	-	-	-
Petro-Canada	100	8,239,025	2,824,184	1.1350	188,408
Port Alberni Harbour Commission	100	7,942	2,329	1.1975	1,093
Port of Quebec Corporation[16]	100	-	-	-	-
Prince Rupert Port Corporation[16]	100	-	-	-	-
Royal Canadian Mint	100	73,094	668,762	1.0225	16,634
The St. Lawrence Seaway Authority	100	668,160	59,532	0.9800	-
The Seaway International Bridge Corporation, Ltd.[17]	100	364	1,262	1.0675	8
Teleglobe Canada	100	519,959	192,152	1.8350	70,310
Telesat Canada	50	398,687	88,421	1.2175	179,507
Thunder Bay Harbour Commission	100	20,158	2,065	1.2550	419
Toronto Harbour Commission	100	79,800	11,091	0.7950	32,825
Uranium Canada, Limited[23]	100	-	-	-	-
Vancouver Port Corporation	100	206,337	44,793	1.1700	108,538
VIA Rail Canada, Inc.	100	652,381	170,266	0.3000	-
Windsor Harbour Commission	100	2,682	394	1.5850	200
St. John's Port Corporation[24]	100	..	..	..	..
Provincial enterprises:					
Newfoundland					
Harmon Corporation	100	16,325	609	0.8825	-
Hotel Buildings Limited	100	21,360	4,774	0.8525	32,126
Marystown Shipyard Limited	100	35,198	32,516	0.9625	24,947
Newfoundland and Labrador Development Corporation Limited	60	26,790	3,013	0.7950	26,700
Newfoundland and Labrador Housing Corporation	100	226,812	27,812	0.5650	141,699
Newfoundland and Labrador Hydro	100	2,086,643	233,560	1.1450	1,491,631
Newfoundland Farm Products Corporation	100	12,118	14,180	0.8400	267
Newfoundland Hardwoods Limited	100	17,531	18,186	1.0225	1,539
Newfoundland Industrial Development Corporation	100	95,520	2,494	1.7225	83,493
Newfoundland Liquor Corporation	100	21,092	72,896	1.7375	3,000

Table B-1 (cont.)

	1983		Average, 1980-83		
	Government ownership[2]	Assets[3]	Revenue[4]	Revenue/ expenditure Ratio[5]	Total debt 1983[6]
	(Per cent)	($ thousands)			($ thousands)
Newfoundland (cont.):					
NORDCO Limited[25]	84	5,302	4,391	0.9287	3,246
Power Distribution, District of Newfoundland and Labrador	100	533	18,900	0.5050	5,742
Prince Edward Island					
Charlottetown Area Development Corporation	75	..	..	..	..
Georgetown Shipyard Incorporated	100	2,271	4,470	0.9675	1,799
Industrial Enterprises Incorporated	100	21,131	2,485	0.4475	18,795
Prince Edward Island Crop Insurance Agency	100	1,406	1,128	0.7325	-
Prince Edward Island Grain Elevators Corporation	100	1,663	3,838	0.9700	1,019
Prince Edward Island Housing Corporation	100	33,712	2,965	0.5750	26,390
Prince Edward Island Land Development Corporation	100	17,774	1,278	0.6625	16,307
Prince Edward Island Lending Authority	100	39,551	3,436	0.8225	39,516
Prince Edward Island Liquor Control Commission	100	4,425	28,206	1.3850	723
Prince Edward Island Lotteries Commission	100	342	4,656	1.4600	-
Prince Edward Island Market Development Corporation	100	286	136	0.1000	-
Summerside Waterfront Development Corporation	75	..	..	..	..
Nova Scotia					
Check Inns Limited	66	406	208	0.2825	106
Halifax International Containers Ltd.	80	..	..	..	..
Halifax-Dartmouth Bridge Commission	56	46,768	7,543	0.8850	73,549
Halifax-Dartmouth Port Development Commission[26]	60	36	90	0.2000	-
Industrial Estates Limited	100	126,755	13,399	0.9325	107,919
Nova Scotia Farm Loan Board	100	120,829	7,552	0.5325	122,553
Nova Scotia Fishermen's Loan Board	100	130,593	4,174	0.3750	-
Nova Scotia Liquor Commission	100	19,385	228,872	1.5525	-
Nova Scotia Lottery Commission	100	2,470	32,535	1.4600	-
Nova Scotia Power Corporation	100	1,394,572	396,349	0.9625	1,390,379
Nova Scotia Research Foundation Corporation	100	7,553	3,550	0.6825	-
Nova Scotia Resources Limited	100	81,443	1,793	2.8933	72,035
Nova Scotia Resources Development Board	100	..	..	..	..
Small Business Development Corporation	100	21,393	1,144	0.6633	-
Sydney Steel Corporation	100	225,270	116,328	0.6275	338,557
Tidal Power Corporation	100	28,761	2	0.0075	25,121
Trade Centre Limited	100	..	..	..	..
Waterfront Development Corporation Limited	100	27,115	1,507	0.8150	9,069
New Brunswick					
Algonquin Properties Ltd.	99	5,254	2,574	0.9450	8,164
Beaverbrook Auditorium	100	..	..	..	..
Fredericton Hotel Company Ltd.	100	3,807	320	1.7050	3,588
Lotteries Commission of New Brunswick	100	1,898	25,420	1.4600	223
New Brunswick Coal Limited	100	44,341	22,892	0.9200	38,663
New Brunswick Crop Insurance Commission	100	..	..	..	..
New Brunswick Electric Power Commission	100	2,991,206	595,079	1.0625	2,237,381
New Brunswick Housing Corporation	100	209,010	6,167	0.3825	199,218
New Brunswick Liquor Corporation	100	14,783	162,882	1.5200	-
New Brunswick Research and Productivity Council	100	3,494	3,802	0.8850	80

Table B-1 (cont.)

	1983		Average, 1980-83		
	Government ownership[2]	Assets[3]	Revenue[4]	Revenue/ expenditure Ratio[5]	Total debt 1983[6]
	(Per cent)	($ thousands)			($ thousands)
New Brunswick (cont.)					
New Brunswick Transportation Authority[27]	100	20,718	-	0.0000	20,496
Provincial Holdings Limited	100	16,186	473	0.8375	15,444
Quebec					
Bio-Méga Inc.[21]	100	...	...	...	...
Caisse de dépôt et placement du Québec	100	18,302,097	1,519,504	19.5700	11,915,423
Compagnie de gestion de Matane Inc.[21]	100	...	...	...	...
Centre de recherche industrielle du Québec	100	23,763	5,241	0.3400	-
Centre de distribution de médicaments vétérinaires Inc. (C.D.M.V.)[21]	100	...	...	...	...
Ethylec Inc.[21]	100	...	...	...	...
Fonds d'assurance-prêts agricoles et forestiers	100	10,328	-	-	328
Hydro-Québec	100	25,199,000	3,169,081	1.2950	17,542,000
Les Piches Nordiques Inc.	100	..	..	..	..
Loto-Québec	100	83,035	512,980	1.4975	11,499
Madelipeche Inc.[21]	100	...	...	...	...
Office du crédit agricole du Québec	100	176,213	12,161	0.1175	167,416
Office du crédit agricole (financement forestier)	100	29,869	1,340	0.3050	28,978
Pêcheries P. F. Kosmos Canada Ltée[21]	100	...	...	...	...
Raffinerie du sucre du Québec[13]	100	81,473	16,658	0.8975	59,954
Régie de l'assurance-automobile du Québec (général)	100	1,976,999	493,494	1.0175	-
Régie de l'assurance-dépôts du Québec	100	17,044	2,997	0.5800	11,600
Régie des assurances agricoles du Québec	100	23,285	17,951	0.8575	-
Régie des installations olympiques	100	1,091,949	21,393	0.1750	559,627
Société de cartographie[28]	100	2,436	1,378	0.7825	1,289
Société de récupération, d'exploitation et de développement forestiers du Québec (REXFOR)	100	123,553	63,697	0.9800	41,081
Société d'exploitation des ressources éducatives du Québec (SEREQ)	100	383	29	0.0400	-
La Sidérurgie du Québec (SIDBEC)	100	923,909	528,391	0.8525	496,336
Société de développement autochtone de la Baie James	100	4,336	895	1.7525	-
Société de développement coopératif (fonds d'investissements)	100	25,465	2,037	1.0275	25,820
Société de développement coopératif (fonds d'opérations)	100	644	395	0.2650	390
Société de développement de la Baie James	100	35,256	3,790	0.5725	7,476
Société de développement des industries de la culture et des communications	100	11,537	962	0.6600	-
Société de développement immobilier du Québec	100	67,508	2,879	5.6225	67,000
Société de développement industriel du Québec	100	152,748	14,883	0.2100	98,208
Société de la Place des Arts de Montréal	100	54,177	4,641	0.3175	41,558
Société de radio-télévision du Québec (Radio-Québec)	100	40,060	1,101	0.0250	11,458
Société de télécommunications de la Baie James	51	10,707	8,118	1.0000	7,080
Société des alcools du Québec	100	154,593	757,794	1.5175	24,887
Société des traversiers du Québec	100	15,818	6,258	0.2925	-
Société d'habitation du Québec	100	1,525,831	61,298	0.2400	1,498,826
Société du Grand Théâtre de Québec	100	1,246	2,115	0.5850	-
Société du Palais des congrès de Montréal	100	82,969	783	0.0567	84,186
Société du port ferroviaire de Baie-Comeau Hauterive[21]	100	...	...	...	...

Table B-1 (cont.)

	1983		Average, 1980-83		
	Government ownership[2]	Assets[3]	Revenue[4]	Revenue/ expenditure Ratio[5]	Total debt 1983[6]
	(Per cent)	($ thousands)			($ thousands)
Quebec (cont.)					
Société du port ferroviaire de Port-Cartier[21]	100	...	...	...	...
Société du tourisme de la Baie James	100	1,435	3,738	0.8775	-
Société générale du cinéma	100	920	115	0.0900	-
Société générale de financement du Québec	100	1,031,047	843,227	1.0700	410,715
Société nationale de l'amiante	100	330,156	116,030	0.9525	120,154
Société québécoise des transports	100	113,036	20,739	0.9100	75,092
Société québécoise d'initiatives agro-alimentaires (SOQUIA)	100	51,126	3,974	0.8025	2,500
Société québécoise d'exploration minière (SOQUEM)	100	266,556	55,782	1.3225	95,675
Société québécoise d'initiatives pétrolières (SOQUIP)	100	189,828	5,627	0.7925	19,794
Usine de Congélation de St-Bruno Inc.[21]	100	...	...	...	...
Ontario					
Algonquin Forestry Authority	100	1,543	7,886	0.9800	55
The Crop Insurance Commission of Ontario	100	899	16,763	0.4975	36,701
Eastern Ontario Development Corporation	100	78,120	3,792	0.4250	59,125
IDEA Corporation[29]	100	40,884	80	0.0250	-
Liquor Control Board of Ontario	100	171,298	1,375,435	1.5775	-
Metropolitan Toronto Convention Centre Corporation	100	10,362	12	0.0200	-
The Niagara Parks Commission	100	40,446	24,827	1.1975	26
Northern Ontario Development Corporation	100	65,063	3,918	0.4650	54,777
Ontario Centre for Advanced Manufacturing	100	8,070	308	0.0650	-
Ontario Centre for Automotive Parts Technology	100	989	218	0.1000	-
Ontario Centre for Farm Machinery and Food Processing Technology	100	1,302	70	0.0900	-
Ontario Centre for Microelectronics	100	2,096	207	0.0800	-
Ontario Centre for Resource Machinery Technology	100	2,153	37	0.0400	-
Ontario Development Corporation	100	196,855	13,933	0.5875	142,961
Ontario Educational Communications Authority (TV Ont.)	100	21,712	7,424	0.2100	1,147
Ontario Energy Corporation[30]	100	702,729	5,853	2.0225	617,500
Ontario Food Terminal Board	100	8,289	2,507	1.1175	5,220
Ontario Housing Corporation	100	1,430,153	150,191	0.3500	1,367,580
Ontario Hydro	100	23,193,894	3,345,329	1.1175	18,266,578
Ontario Junior Farmer Establishment Loan Corporation	100	42,115	2,371	0.3725	42,060
Ontario Land Corporation	100	1,119,506	75,470	1.0200	1,048,075
Ontario Lottery Corporation	100	51,354	558,936	1.4425	-
Ontario Northland Transportation Commission	100	190,197	94,638	0.9550	57,906
Ontario Place Corporation	100	2,342	9,358	0.7800	-
Ontario Research Foundation	100	20,328	13,317	0.7725	114
Ontario Stockyards Board	100	1,332	2,545	0.9775	-
Ontario Share and Deposit Insurance Corporation	100	47,051	4,086	1.4800	-
Ontario Waste Management Corporation	100	1,564	15	-	-
Province of Ontario Savings Office	100	686,408	78,095	1.0625	-
Thunder Bay Ski Jumps Ltd.[21]	100	...	...	...	...
Toronto Area Transit Operating Authority	100	330,736	38,307	0.4200	-
Urban Transportation Development Corporation Ltd.[13]	100	156,094	58,565	1.0175	1,806

Table B-1 (cont.)

	1983		Average, 1980-83		
	Government ownership[2]	Assets[3]	Revenue[4]	Revenue/ expenditure Ratio[5]	Total debt 1983[6]
	(Per cent)	($ thousands)			($ thousands)
Manitoba					
A.E. McKenzie Co. Ltd.	100	8,296	12,288	0.9425	8,014
Channel Area Loggers Ltd.	100	841	1,127	0.8825	200
Communities Economic Development Fund	100	3,994	388	0.3925	-
Leaf Rapids Town Properties Ltd.	100	10,525	1,236	1.0050	4,303
The Liquor Control Commission	100	14,578	268,220	1.6150	4,500
Manitoba Agricultural Credit Corporation	100	197,453	15,894	0.8625	192,317
Manitoba Agricultural Credit Corporation (The Fisheries Act)	100	3,328	296	0.4675	3,300
Manitoba Centennial Centre Corporation	100	602	1,511	0.6075	-
Manitoba Crop Insurance Corporation (crop)	100	3,783	12,650	0.3475	2,400
Manitoba Crop Insurance Corporation (hail)	100	1,053	2,742	1.1025	500
Manitoba Development Corporation	100	27,358	4,220	1.7175	-
Manitoba Energy Authority[16]	100	. . .	. . .	. . .	. . .
Manitoba Forestry Resources Ltd.	100	89,275	69,576	0.8850	2,121
Manitoba Housing and Renewal Corporation	100	411,939	1,566	0.0475	395,908
Manitoba Hydro-Electric Board	100	2,934,092	448,898	0.9625	2,926,716
Manitoba Lotteries Foundation	100	8,547	36,837	1.1800	-
Manitoba Mineral Resources Ltd.	100	3,356	8	0.0050	-
Manitoba Oil and Gas Corporation[16]	100	-	-	-	-
Manitoba Public Insurance Corporation	100	280,330	194,436	1.0325	-
Manitoba Telephone System	100	731,873	268,809	1.0250	605,324
Manitoba Trading Corporation	100	504	9	0.3825	500
Manitoba Water Services Board	100	25,387	3,556	0.8875	25,866
Moose Lake Loggers Ltd.	100	815	3,013	0.9975	199
Venture Manitoba Tours Ltd.	100	981	1,374	1.0150	218
Saskatchewan					
Agricultural Credit Corporation of Saskatchewan	100	176,054	12,200	0.6050	169,99
Agricultural Development Corporation of Saskatchewan[31]	100	2,158	2,588	0.9475	279
Potash Corporation of Saskatchewan[31]	100	1,161,550	300,634	1.3000	433,737
Prince Albert Pulp Co. Ltd.[32]	100	. .	. .	. .	. .
Saskatchewan Centre of the Arts	100	1,548	1,246	0.8175	230
Saskatchewan Computer Utility Corporation[31]	100	7,267	18,586	1.0900	4,480
Saskatchewan Crop Insurance Corporation	100	. .	. .	. .	. .
Saskatchewan Development Fund Corporation	100	. .	. .	. .	. .
Saskatchewan Forest Products Corporation[31]	100	29,746	26,583	0.8475	38,226
Saskatchewan Grain Car Corporation	100	54,916	899	0.2400	51,333
Saskatchewan Government Insurance[31]	100	366,611	271,587	0.9950	57,000
Saskatchewan Liquor Board	100	85,215	256,234	1.5500	-
Saskatchewan Housing Corporation	100	382,475	26,253	0.6350	310,804
Saskatchewan Minerals[31]	100	19,809	23,000	1.2125	13,020
Saskatchewan Mining Development Corporation[31]	100	812,985	20,246	0.8925	698,940
Saskatchewan Oil and Gas Corporation[31,33]	100	214,883	57,212	1.1625	25,000
Saskatchewan Power Corporation[31]	100	2,355,976	589,129	1.0025	1,988,334
Saskatchewan Research Council	100	3,411	6,208	0.6475	1,065
Saskatchewan Telecommunications[31]	100	873,453	283,002	1.0675	750,741
Saskatchewan Transportation Company[31]	100	12,624	12,800	0.9050	15,162
Saskatchewan Water Supply Board[31]	100	13,360	3,104	1.2175	18,476
Saskatchewan Economic Development Corporation (SEDCO)[31]	100	162,354	16,800	0.9300	164,849

Table B-1 (cont.)

	1983		Average, 1980-83		
	Government ownership[2]	Assets[3]	Revenue[4]	Revenue/ expenditure Ratio[5]	Total debt 1983[6]
	(Per cent)	($ thousands)			($ thousands)
Alberta					
Alberta Agriculture Development Corporation	100	919,022	58,556	0.5975	847,000
Alberta Electric Energy Marketing Agency	100	6,341	631,166	0.9150	4,310
Alberta Energy Company Ltd.	44	1,613,300	352,760	1.2100	565,100
Alberta General Insurance Company	100	1,278	1,872	0.9225	-
Alberta Government Telephones Commission	100	2,311,043	808,904	0.9875	2,315,809
Alberta Hail and Crop Insurance Corporation	100	103,815	54,910	0.7775	-
Alberta Home Mortgage Corporation	100	3,045,070	208,091	0.7725	2,629,748
Alberta Housing Corporation	100	1,535,222	39,453	0.3950	1,343,485
Alberta Liquor Control Board	100	183,793	726,697	1.4900	-
Alberta Motion Picture Development Corporation[9]	100	1,080	-	-	919
Alberta Opportunity Company	100	165,248	16,048	0.8550	168,512
Alberta Research Council	100	34,051	15,809	0.5050	235
Alberta Resources Railway Corporation	100	69,144	7,538	0.4125	104,429
Alberta Terminals Ltd.	100	18,481	3,357	1.0600	-
Pacific Western Airlines Corporation[34]	15	546,340	315,252	1.1175	290,888
Treasury Branches Deposit Fund	100	3,422,157	365,935	1.0200	-
259431 Alberta Ltd.	100	..	..	..	..
British Columbia					
British Columbia Buildings Corporation	100	876,626	194,605	1.0575	721,886
British Columbia Cellulose Company	100	2,957	981	0.7450	-
British Columbia Development Corporation	100	390,711	25,109	0.8450	153,169
British Columbia Ferry Corporation	100	305,974	113,044	0.6725	35,908
British Columbia Food Exhibitions Ltd.[35]	100	-	4	-	-
British Columbia Harbours Board	100	37,664	4,997	3.1475	6,000
British Columbia Housing Management Commission	100	6,183	30,165	0.7975	749
British Columbia Hydro and Power Authority	100	10,314,000	1,532,980	1.3125	8,359,000
British Columbia Liquor Distribution Branch	100	61,524	794,811	1.5400	24,296
British Columbia Petroleum Corporation	100	218,000	496,460	1.5525	30,000
British Columbia Place Ltd.	100	286,851	1,798	0.3625	63,704
British Columbia Railway Company	100	1,364,952	186,000	0.8225	985,379
British Columbia Research Council	100	4,570	6,397	0.8675	521
British Columbia Steamship Company (1975) Ltd.	100	5,604	6,837	0.7850	6,088
British Columbia Transit	100	672,048	74,074	0.4225	391,801
British Columbia Lottery Corporation[16]	100	...	...	...	...
Expo '86 Corporation	100	20,799	7,294	0.4075	43,748
Housing Corporation of British Columbia[36]	100	4,527	1,087	5.2425	-
Insurance Corporation of British Columbia	100	1,109,509	684,436	0.9450	6,863
Knowledge Network of the West Communication Authority	100	4,785	299	0.2225	-
Metro Transit Operating Company[37]	100	20,328	-	-	-
Ocean Falls Corporation[38]	100	3,641	50	0.0250	51,061
Pacific Coach Lines Limited	100	14,440	16,982	0.6950	-
Pacific National Exhibition	100	27,826	19,841	0.9500	-
Yukon and Northwest Territories					
Northwest Territories Housing Corporation	100	173,922	2,315	0.0725	102,307
Northwest Territories Liquor Control System	100	3,670	18,922	1.6850	-
Yukon Housing Corporation	100	14,452	946	0.3575	8,811
Yukon Liquor Control	100	2,101	12,933	1.5775	1,500

Table B-1 (cont.)

	1983		Average, 1980-83		
	Government ownership[2]	Assets[3]	Revenue[4]	Revenue/ expenditure Ratio[5]	Total debt 1983[6]
Joint enterprises:	(Per cent)	($ thousands)			($ thousands)
Atlantic Lottery Corporation Inc.[39]	100	32,185	78,300	1.4150	8,086
Western Canada Lottery Foundation[40]	100	62,670	256,605	1.5000	-

1 Corporations listed are effectively controlled by governments. Effectively controlled subsidiaries of public corporations also appear if their financial statements are not consolidated with those of their parent companies. The list is current as of 1985, but data provided are for 1983.
2 Figures represent shares, votes controlled, or participation by associated government.
3 Figures include total assets as shown on balance sheet, with adjustments where necessary to render data comparable using the FMS accounting procedure.
4 Revenue data used do not include government transfers for operating purposes.
5 This ratio measures the proportion of operating expenditures recouped through autonomous revenue (gross revenues net of transfers from government), on average, over the period indicated.
6 "Debt" refers only to borrowings - all long-term debt, as well as such current items as bank indebtedness. It excludes current entries like accounts payable and accruals. Sinking-fund balances are included in total assets and have not been subtracted from long-term debt.
7 Federal ownership percentages are based on the number of votes held, rather than shares held.
8 For statistics, see subsidiaries as indicated by footnote 12. CDIC is not itself considered a commercial enterprise.
9 Has no operating revenues.
10 For statistics, see subsidiaries as indicated by footnote 11.
11 Subsidiary of Canada Lands Company Ltd.
12 Subsidiary of Canada Development Investment Corporation.
13 Sold in 1986.
14 Operations absorbed by the Department of Supply and Services Canada in 1982.
15 Nonconsolidated subsidiary of Petro-Canada.
16 Began operations in 1984.
17 Nonconsolidated subsidiary of the St. Lawrence Seaway Authority.
18 Wound up in 1985.
19 Inactive.
20 Air Canada sold its investment in Nordair, effective May 31, 1984.
21 Subsidiary in 1983; now a parent enterprise.
22 Began operations in 1984; sold in 1986.
23 Inactive as of 1981. To be wound up by 1989.
24 Began operations in 1985.
25 Sold in 1986. Revenue and expenditure figures are unconsolidated because of unavailability of data.
26 Established in August 1983.
27 NBTA participates in the financing of port facilities and airports. It has no commercial operations as such.
28 Sold in 1985.
29 Wound up June 30, 1986.
30 In process of winding up.
31 Subsidiary of the Crown Management Board of Saskatchewan.
32 A wholly owned subsidiary of Crown Management Board, the financial statements of PAPCO are not available to the public. The company was sold in March of 1986.
33 A public share offering in January 1986 reduced government ownership of Saskoil to 58.2 per cent.
34 Alberta became a minority shareholder in 1983.
35 Had no operating revenues for 1982 and 1983. Previously named Surrey Farm Products Ltd.
36 In process of winding up since 1978; not active currently.
37 Revenue consists entirely of payments from British Columbia Transit - another provincial enterprise – to defray expenditures.
38 Mill operations were discontinued in 1980. An Act to dissolve the company was passed in 1983; no date for dissolution had been fixed as of fiscal year end 1985.
39 Ownership is divided equally among the four Atlantic provinces.
40 Ownership is divided equally among the three Prairie provinces; the Yukon and Northwest Territories are associate members.

Notes

Chapter 1

1 This assessment is based on various sources: "The state in the market," *The Economist*, December 30, 1978; *Government Finance Statistics Yearbook*, Volume VII (Washington, D.C.: International Monetary Fund, 1983); Armand Bizaguet, "L'impact économique des entreprises en Europe," in *L'entreprise publique dans l'Europe communautaire — Bilan et avenue*, 9ième Congrès du CEEP, 5-8 May 1981.

2 Armand Bizaguet, "L'impact économique des entreprises en Europe."

3 From S. C. Littlechild, "Privatization: Notes on the U.K. experience," a paper presented at the "Weaving a new industrial policy: Concentration, deregulation and privatization" conference sponsored by the Institute for Research on Public Policy, Toronto, February 23, 1985.

4 Robert Andrew, "Public participation in Crown corporations: A Saskatchewan perspective," presented at the "Weaving a new industrial policy" conference.

Chapter 2

1 Allan Tupper and G. Bruce Doern, "Public corporations and public policy in Canada," in *Public Corporations and Public Policy in Canada*, ed. Allan Tupper and G. Bruce Doern (Montreal: Institute for Research on Public Policy, 1981), pp. 1-50.

2 The Lambert Commission divided "independent deciding and advisory boards" into four subcategories: (i) regulatory agencies — i.e., the National Energy Board, the Canadian Radio-television and Telecommunications Commission; (ii) deciding tribunals — i.e., the Canadian Pension Commission, the Immigration Appeal Board; (iii) granting agencies — i.e., the Canada Council, the Medical Research Council; and (iv) research/advisory agencies — i.e., the Economic Council, the Law Reform Commission. For details, see final report of the *Royal Commission on Financial Management and Accountability* (Ottawa: Supply and Services Canada, March 1979).

3 Even where public-enterprise employees are governed by private-sector labour legislation, however, they have tended to be subject to programs of wage restraint directed at public employees. A recent study finds that policy makers have adopted more of a "hybrid model" than a private-sector or public-sector approach in legislating industrial relations for public enterprises. Mark Thompson and Allen Ponak, "Industrial relations in Canadian public enterprises," a paper delivered to the International Seminar on Industrial Relations and Public Enterprise Management in Third World Perspective, New Delhi, India, January 4-7, 1984.

4 The differences between public- and private-sector control mechanisms are described in Elaine Kirsch, "Crown corporations as instruments of public policy: A legal and institutional perspective," Economic Council of Canada, Discussion Paper 295, Ottawa, December 1985.

5 Statistics Canada estimates government-enterprise employment at 3.4 per cent of total employment (1983). Adjusting these data to correspond to our universe percentage increases the employment share by 1 percentage point.

6 *The Financial Post 500*, Summer 1986, pp. 65-89.

7 W. T. Easterbrook and H.G.H. Aitken, *Canadian Economic History* (Toronto: Macmillan, 1967), p. 443.

8 John R. Baldwin, "The evolution of the regulatory contract for natural monopolies: Choice of instrument and contractual failure," Economic Council of Canada, Ottawa (forthcoming).

9 Baldwin, "Evolution of the regulatory contract."

10 Baldwin, "Evolution of the regulatory contract."

11 H. A. Innis, *The Problems of Staple Production* (Toronto: Ryerson Press, 1933), p. 67.

12 "Ferguson launches government control policy," *The Globe*, 19 October 1926, p. 1, cited in Allan Tupper, "The nation's businesses: Canadian concepts of public enterprise," unpublished doctoral thesis, Queen's University, Kingston, Ontario, 1977, p. 332.

13 Quoted in Marsha Gordon, *Government in Business* (Montreal and Calgary: C. D. Howe Institute, 1981), p. 66.

14 C. D. Howe, Minister of Transport, House of Commons *Debates*, March 22, 1937, p. 2041.

15 Abraham Rotstein, "The origins of the Canadian Wheat Board," in *Government Enterprise: Roles and Rationales*, a collection of papers presented at a Colloquium sponsored by the Economic Council of Canada in Ottawa, September 24-25, 1984, pp. 69-102.

16 Vernon C. Fowke, *The National Policy and the Wheat Economy* (Toronto: University of Toronto Press, 1957), p. 271, cited in Rotstein, "Origins of the Canadian Wheat Board," p. 93.

17 This division is based on Stanford F. Borins, "World War II Crown corporations: Their functions and their fate," in *Crown Corporations in Canada: The Calculus of Instrument Choice*, ed. J. Robert S. Prichard (Toronto and Vancouver: Butterworth, 1983), pp. 447-75.

18 See Privy Council Office, *Submissions to the Royal Commission on Financial Management and Accountability* (Ottawa: Supply and Services Canada, 1979), chap. 2, pp. 127-30.

19 M. J. Trebilcock and J.R.S. Prichard, "The calculus of instrument choice," in *Crown Corporations in Canada*, p. 66.

20 See the "Regina Manifesto" of the Co-operative Commonwealth Federation, 1933, in *Historical Documents of Canada*, ed. C. P. Stacey (Toronto: University of Toronto Press, 1972), vol. 5, pp. 46-52.

21 Hon. C. M. Fines, Provincial Treasurer, Budget Speech, March 2, 1949, cited in *Public Enterprise in Saskatchewan*, Crown Investments Corporation of Saskatchewan (Regina: Saskatchewan Government, 1981).

22 Provincial concerns with respect to the application of federal regulatory and competition policy have been cited with reference to the creation of public enterprises in telecommunications and automobile insurance, respectively; see Trebilcock and Prichard, "The calculus of instrument choice." For example, government entry into insurance was prompted by the view that "private insurance companies have made more money doing business with Saskatchewan people than ... [is] just or equitable, and have taken much of it away from the province" (the Honourable O. W. Valleau, Minister responsible for Saskatchewan Government Insurance Office, cited in Tupper, "The nation's businesses," p. 203).

23 Public financial enterprises in the United States include the federal Deposit Insurance Corporation, Government National Mortgage Association, Overseas Private Investment Corporation, and Pension Benefit Guaranty Corporation.

24 See Roy George, "The Cape Breton Development Corporation," in Tupper and Doern, *Public Corporations*, pp. 365-88.

25 The report appeared as *The Cape Breton Coal Problem* (Ottawa: Queen's Printer, 1966).

26 *An Act to Establish the Canada Development Corporation*, 3rd session, 28th Parliament, 1971, in *Statutes of Canada*, 1970-72, vol. 1, chap. 49, p. 1085.

27 G. Bruce Doern and James A. R. Brothers, "Telesat Canada," in Tupper and Doern, *Public Corporations*, pp. 221-49.

28 The National Energy Board predicted possible oil and gas supply shortages as early as 1983. See study by the U.S. General Accounting Office, *Petro-Canada: The National Oil Company as a Tool of Canadian Energy Policy* (Washington: U.S. GAO, October 1981), p. 3.

29 Donald Macdonald, Minister of Energy, 1st session, 30th Parliament, 12 March 1975, and cited in Paul Halpern, André Plourde, and Leonard Waverman, "Petro-Canada: Its role, control and operations," Economic Council of Canada (forthcoming).

30 Larry Pratt, "Petro-Canada," in Tupper and Doern, *Public Corporations*, pp. 95-148.

31 "Liberal Premier Lesage's statement on four subjects," *Gazette*, November 12, 1962, p. 15, cited in Tupper, "The nation's businesses," p. 150.

32 Allan Tupper, "Pacific Western Airlines," in Tupper and Doern, *Public Corporations*, pp. 285-318.

33 Trebilcock and Prichard, "The calculus of instrument choice," p. 57.

34 H. Vivian Nelles, *The Politics of Development: Forest, Mines and Hydro-Electric Power in Ontario, 1849-1941* (Toronto: Macmillan, 1974).

CHAPTER 3

1 This is based mainly on the work of Oliver E. Williamson, particularly: *Markets and Hierarchies: Analysis and Implications* (New York: Free Press, 1975); "Franchise bidding for natural monopolies — In general and with respect to CATV," *Bell Journal of Economics* (Spring 1976); and "The modern corporation: Origins, evolution, attributes," *Journal of Economic Literature* (December 1981).

Previous attempts to apply these concepts to public enterprise include the following works: T. E. Borcherding, "Towards a positive theory of public sector supply arrangements," in *Crown Corporations in Canada: The Calculus of Instrument Choice*, ed. J.R.S. Prichard (Toronto: Butterworths, 1983); M. J. Trebilcock and J.R.S. Prichard, "Crown corporations: The calculus of instrument choice," in *Crown Corporations in Canada*, ed. Prichard; and Ron Hirshhorn, "Government enterprise and organizational efficiency," a paper presented at the Economic Council / Institute for Policy Analysis Conference on Government Enterprise, University of Toronto, November 1984.

2 Williamson, *Markets and Hierarchies*.

3 A. A. Alchian and H. Demsetz, "Production, information costs and economic organization," *American Economic Review* (December 1972); Y. Barzel, "Measurement costs and the organization of markets," *Journal of Law and Economics* (April 1982); and J. McManus, "The costs of alternative economic organizations," *Canadian Journal of Economics* (August 1975).

4 Williamson, *Markets and Hierarchies*.

5 These are what Williamson terms "first-mover advantages" in *Markets and Hierarchies*.

6 M. C. Jensen and W. H. Meckling, "Theory of the firm: Managerial behavior, agency costs and ownership structure," *Journal of Finance Economics* (October 1976). For a general discussion, see "Corporations and private property," a conference sponsored by the Hoover Institute, *The Journal of Law and Economics* 26, no. 2 (June 1983).

7 A recent paper attempts to show how many of the control mechanisms in the private sector have an analogue in the public sector; see Ronald Wintrobe, "Public and private bureaucracies," in *Government Enterprise: Roles and Rationale*, papers presented at a symposium sponsored by the Economic Council of Canada, September 1984.

8 The costs of the administrative process in the public sector are emphasized in Elaine Kirsch, "Crown corporations as instruments of public policy: A legal and institutional perspective," Economic Council of Canada, Discussion Paper 295, Ottawa, March 1986.

9 The evidence is reviewed in: T. E. Borcherding, W. W. Pommerehne, and F. Schneider, "Comparing the efficiency of private and public production: The evidence from five countries," in *Publi Production*, ed. Dieter

Bos, Richard A. Musgrave, and Jack Wiseman, Supplement 2 of *Zeitschrift Für Nationalokonomie / Journal of Economics* (1982):127-56; and R. Millward, "The comparative performance of public and private ownership," in *The Mixed Economy*, ed. Lord E. Roll (London: Macmillan, 1982), pp. 59-93.

10 See, for example, R. P. Rumelt, *Strategy Structure and Economic Performance* (Boston, Mass.: Harvard University Press, 1974).

11 On this, see Williamson, "The modern corporation: Origins, evolution, attributes," *Journal of Economic Literature* (December 1981); and H. A. Simon, *Administrative Behavior: A Study of Decision-Making Processes in Administrative Organizations* (New York: Macmillan, 1957).

12 In House of Commons, *Debates* (1920), pp. 1664-66, as cited in C. A. Ashley and R.G.H. Smails, *Canadian Crown Corporations* (Toronto: Macmillan, 1965), pp. 40-41.

CHAPTER 4

1 The history and descriptions are not meant to be exhaustive but to highlight the issues being examined. For more extensive treatments, see Aidan R. Vining, "Provincial hydro utilities," in *Public Corporations and Public Policy in Canada*, ed. Allan Tupper and G. Bruce Doern (Montreal: Institute for Research on Public Policy, 1981); H. V. Nelles, *The Politics of Development: Forest, Mines and Hydro-Electric Power in Ontario, 1849-1941* (Toronto: Macmillan, 1974), Chapters 6 and 7; Christopher Armstrong and H. V. Nelles, "Contrasting development of the hydro-electric industry in the Montreal and Toronto regions, 1900-1930," *Journal of Canadian Studies* 18, no. 1 (Spring 1983):5-27; Roland Parenteau, "Hydro-Québec : Les relations entre l'État et son entreprise," Economic Council of Canada, Discussion Paper 312, Ottawa, 1986; Arthur Kaell, "Ontario Hydro," a study prepared for the Economic Council of Canada, Ottawa (forthcoming); and Raymond W. Payne, "Electric power, Crown corporations, and the evolution of an energy policy process in British Columbia: 1960-1980," a paper presented to the Annual Meeting of the Canadian Political Science Association, May 1981.

2 John R. Baldwin, "The evolution of the regulatory contract for natural monopolies: Choice of instrument and contractual failure," a study prepared for the Economic Council of Canada, Ottawa (forthcoming).

3 Memoranda of understanding are required of many of Ontario's public enterprises. See Figure 8-1 in Chapter 8 of this report.

4 For a discussion of these developments and the associated debate, see Paul L. Joskow and Richard Schmalensee, *Markets for Power: An Analysis of Electric Utility Deregulation* (Cambridge, Massachusetts, and London, England: MIT Press, 1983).

5 There have, however, been echoes of the U.S. debate in Canada: arguments that generation and other functions should be separated, particularly with respect to Ontario Hydro. See Lawrence Solomon, *Power at What Cost?* (Toronto: Energy Probe Research Foundation, 1984). These suggestions for reform seem to be inspired largely by particular decisions concerning generation, specifically the choice of nuclear power. Of course, regardless of the structure chosen for generation, it is not at all clear that the choice of generating technology would have been different.

6 For an exposition of this argument, as well as the evidence on appropriate scale, see Joskow and Schmalensee, *Markets for Power*, chap. 12. Of course, interdependence of production and distribution was a major consideration in the creation of B.C. Hydro, as discussed earlier.

7 To a large extent, the manner in which purchase prices are ultimately set is as much a reflection on the control of the electrical utilities as on their objectives.

8 The three studies are as follows: M. K. Berkowitz and P. J. Halpern, *The Role of Crown Corporations in the Efficient Production and Use of Electricity — Volume I: An Economic Analysis of the Production, Investment, and Financing Behaviour of the Canadian Electric Utility Industry* (Toronto: Institute for Policy Analysis, University of Toronto, January 1981), Table 10-9, p. 236; Richard C. Zuker and Glenn P. Jenkins, *Blue Gold: Hydro-Electric Rent in Canada*, a study prepared for the Economic Council of Canada (Ottawa: Supply and Services Canada, 1984), Table 4.1, p. 30; and Glenn P. Jenkins, "Public utility finance and economic waste," Harvard Institute for International Development, Harvard University, unpublished paper, Table 3, p. 23.

9 This point, and the importance of information generally, is discussed in M. Manove, "Public enterprise versus regulation when costs are uncertain," in *Public Enterprise in Less-Developed Countries*, ed. L. P. Jones (Cambridge: Cambridge University Press, 1982).

10 For example, see T. E. Borcherding, W. W. Pommerehne, and F. Schneider, "Comparing the efficiency of private and public production: The evidence from five countries," in *Public Production*, ed. Dieter Bos, Richard A. Musgrave, and Jack Wiseman, Supplement 2 of *Zeitschrift für Nationalökonomie* / Journal of Economics (1982):127-56. As well, there is Daniel O. Côté and Stephen Farber, "Effects of ownership structure on efficiency: The case of electric utilities," a paper presented at the Canadian Economic Association meetings, May 1986.

11 This question was addressed more generally by the Council in *Toward More Stable Growth in Construction: Report of the Study on Cyclical Instability in Construction*, Economic Council of Canada (Ottawa: Information Canada, 1973).

12 In Ontario, the forecast error is documented most clearly in a report by the Select Committee on Ontario Hydro Affairs, *Special Report on the Need for Electrical Capacity* (Toronto: Legislative Assembly of Ontario, December 1979). Parenteau, "Hydro-Québec," and Payne, "Electric power," pp. 91 and 23, respectively, discuss Quebec and B.C. forecasts.

13 The Ontario Legislature's Select Committee recently commented: "... policy choices ... may be made with more

concern for protecting the narrower interests of Ontario Hydro from the broader interests of the province as a whole." See Select Committee on Energy, *Report on Darlington Nuclear Generating Station*, 1st Session, Thirty-Third Parliament, 34 Elizabeth 11.

14 Legislative Assembly of British Columbia, Committee on Crown Corporations, *Inquiry into British Columbia Hydro and Power Authority Construction Management Practices: Columbia River Treaty Projects*, Victoria, B.C., April 1979.

15 Of course, in broad outline, the B.C. Utilities Commission, which regulates electrical rates and can be used to advise on capital projects, conforms relatively closely to this suggestion.

16 In this context it is natural to ask whether anything can be said about the optimal level of resources for a regulatory body. Unfortunately, there is little systematic information available in this regard. See comments by Paul L. Joskow and Roger C. Noll, "Regulation in theory and practice: An overview," in *Studies in Public Regulation*, ed. Gary Fromm (Cambridge, Mass.: MIT Press, 1981), p. 40.

17 A number of legal decisions suggest that federal authorities do have constitutional power to regulate telecommunications throughout the country, to the extent that such regulation inherently affects interprovincial telecommunications. As early as 1905, the Judicial Committee of the Privy Council enunciated the constitutional inability of the provinces to regulate Bell in *Corporation of the City of Toronto vs. Bell Telephone Co. of Canada (1905), A.C. 52.*

18 In addition to the regulatory agencies, under the terms of the *Radio Act* the federal Department of Communications licenses the use of radio communications by the telephone companies.

19 International services outside North America, both cable and satellite, are the responsibility of Teleglobe, a wholly owned corporation of the federal government.

20 The brief discussion of history that follows is based broadly on Michael Denny, "Government enterprise in western Canada's telecommunications," Economic Council of Canada, Discussion Paper 301, Ottawa, 1986; and H. A. Innis, "Government ownership in Canada," *The Problems of Staple Production* (Toronto: Ryerson Press, 1933).

21 See note 15 above. Manitoba did consider expropriation but was legally unable to do so.

22 See Denny, "Government enterprise in western Canada's telecommunications."

23 One concern raised by this proposal is the impact of increased competition on the cross-subsidization of rates charged by the telephone companies. This is particularly true of the subsidization of local services by long-distance rates; in a competitive environment, long-distance rates will more nearly reflect costs. Of course, the extent of the subsidy to local telephone users is itself detrimental to allocative economic efficiency, as noted previously by the Council in *Reforming Regulation*.

There are several possibilities for mitigating the distributional impact of greater competition. First, governments have the option of directly subsidizing rates for particular services. This subsidy could be financed by a charge on all long-distance communications, so that the distributional effect would be broadly similar to that which now exists, while many of the benefits of competition would be retained. Finally, it may be possible to change the way in which local service is billed — using local measured service, for example, to reduce some of the negative impact of rising rates. Reform of local pricing is discussed in W. T. Stanbury and S. A. Globerman, "Changing the telephone pricing structure: Allocative, distributional and political considerations," in *Canadian Public Policy* 12, no. 1 (1986):214-26.

24 CRTC Decision, 79-11, p. 157.

25 Consider the plaint of one group of users — the Canadian Petroleum Association:

> ... to install an integrated facility between Toronto and Edmonton in which the band is shared by voice and data according to demand, means negotiating with Telecom Canada, AGT, Edmonton Telephones, Telesat Canada, and Bell Canada. AGT, Bell, and Edmonton Telephones handle the interface voice and data communications with the satellite service, while the satellite portion is dealt with by Telecom Canada, AGT, Bell and Telesat. The presence of Telecom Canada necessitates obtaining approval from all of its member companies, including telephone companies which have no role in providing the services involved. Consequently, delays often exceed user time constraints. The user has no alternatives, for no competing carrier is interconnected with both AGT and Edmonton Telephones. [See Canadian Petroleum Association, submission to the Department of Communications, telecommunications policy review, p. 9.]

Ultimately, of course, the question raised is the cost and suitability of Canada's fragmented jurisdiction over telecommunications. This has implications for technical and dynamic efficiency, as discussed here. But it also has a variety of other economic dimensions, including the pricing of interprovincial calls relative to intraprovincial, since the latter are regulated but the former largely unregulated, as falling between jurisdictional stools. As well, it has implications for such noneconomic issues as national unity. Some of these have been explored recently by a consultative committee to the Department of Communications — the Consultative Committee on the Implications of Telecommunications for Canadian Sovereignty [the Clyne Committee], *Telecommunications and Canada* (Ottawa: Supply and Services Canada, 1979).

26 See Pankaj Tandon and Ingo Vogelsang, "A comparative institutions approach to the evaluation of public enterprises," a paper prepared for the World Bank, Boston University, 1983, p. 37.

27 See Melvyn Fuss and Leonard Waverman, "The regulation of telecommunications in Canada," Economic Council of Canada, Regulation Reference Technical Report No. 7, Ottawa, March 1981.

28 For a discussion of the extent of contracting in the United States, see John Tepper Marlin, ed., *Contracting Muni-*

cipal Services — A Guide for Purchase from the Private Sector (New York: John Wiley and Sons, 1984), especially Table 2-1, pp. 10-11.

29 With respect to the case of Toronto, see Michael J. Doucet, "Mass transit and the failure of private ownership: The case of Toronto in the early twentieth century," *Urban History Review* 77, no. 3 (February 1978); and Donald F. Davis, "Mass transit and private ownership: An alternative perspective on the case of Toronto," *Urban History Review* 78, no. 3 (February 1979).

30 See Borcherding et al., "Evidence from five countries"; Charles A. Lave, ed., *Urban Transit: The Private Challenge to Public Transportation* (Cambridge, Mass.: Ballinger Publishing, 1985); and Harry M. Kitchen, "Local government enterprise in Canada," Economic Council of Canada, Discussion Paper 300, Ottawa, 1986. Contracting's effect in reducing costs is probably most clearly documented for the collection of solid waste.

31 See Oliver E. Williamson, "Franchise bidding for natural monopolies: In general and with respect to CATV," *Bell Journal of Economics* 7 (Spring 1976):73-104. He provides a more detailed discussion of the risks involved in lengthy contracts, illustrated by failures in cable TV franchises.

32 For example, in calculating capital stock, Statistics Canada estimates lives of 10 years for buses in urban transit against lives of 55 and 25 years for engineering construction and for machinery and equipment, which dominate capital stock in the electrical and telephone industries, respectively. See Statistics Canada, *Fixed Capital Flows and Stocks, 1936-1983*, Cat. 13-568.

33 For discussions of recent experience in franchising portions of large urban systems, particularly those in Dallas, Texas, and London, England, see "The business of privatization," in *Mass Transit* 13 (August 1986); "Dallas: A public/private partnership for transit," in *Bus Ride* (October 1985); and Tony M. Ridley, "London transportation systems and privatisation issues in England," a paper presented to Deloitte Haskins and Sells' Mass Transit Industry Conference, Vancouver, B.C., June 1986.

34 For an assessment of the possibility of measuring quality of service in a slightly different context (that of passenger rail service), see Jerome T. Bentley, "Issues in subsidization with attention to the subsidization of passenger rail service," Economic Council of Canada, Discussion Paper 282, Ottawa, 1985.

35 To some extent the pattern of ownership within provinces in Table 4-4 reflects the nature of subsidies as described here. The impact of B.C. Transit is also evident. Aside from any slant to subsidies, the ownership of transit systems by province also reflects the level of subsidies made available. The greater the subsidies, the smaller the cities that are able to use urban transit. In turn, the smaller the cities, the greater the likelihood of privately run transit systems.

CHAPTER 5

1 Royal Commission to Inquire into Railways and Transportation in Canada, *Report, 1931-2* (Ottawa: Printer to the King's Most Excellent Majesty, 1932), p. 43, para. 114.

2 See R. Kent Weaver, *The Politics of Industrial Change: Railway Policy in North America* (Washington: The Brookings Institution, 1985), chap. 2.

3 Weaver, *The Politics of Industrial Change*, chap. 7.

4 As noted in Chapter 2, these problems may in turn be related to the lack of protection for private property and the consequent inadequacy of the system of regulation that was in place. See John R. Baldwin, "The evolution of the regulatory contract for natural monopolies: Choice of instrument and contractual failure," a study prepared for the Economic Council of Canada, Ottawa (forthcoming).

5 D. W. Caves and L. R. Christensen, "The relative efficiency of public and private firms in a competitive environment: The case of Canada railroads," *Journal of Political Economy* 88, no. 5 (1980):958-76; D. W. Caves, L. R. Christensen, J. A. Swanson, and M. M. Tretheway, "Economic performance and the regulatory environment," in *Managing Public Enterprises*, ed. W. T. Stanbury and F. Thompson (New York: Praeger, 1982); and R. Roy and D. Cofsky, "An empirical investigation for Canadian Class I railways of both performance and industry cost structure," Proceedings of Canadian Transportation Research Forum, 20th Annual Meeting, Toronto, May 1985.

6 Roy and Cofsky, "... Canadian Class I railways."

7 Interlined traffic between CN and CP accounted for only 2.2 per cent of domestic traffic, by freight revenue, in 1981; see T. Heaver, "Competition and collective pricing between railways in Canada," Transport Canada, Paper TP4302, 1983, Table 6.

8 These are in addition to the problems associated with the decision to subsidize carriers rather than shippers. The latter approach would have allowed grain producers to choose the preferable form of transportation and encouraged some rationalization of the high-cost branchline network.

9 See, for example, discussion in Adil Cubukgil, "Structural change and regulatory reform in rail transport: Opportunities for separating the ownership of track and carriage," a study prepared for the Economic Council of Canada, Ottawa (forthcoming).

10 W. P. Dabney, *Public Regulation of Railways*, quoted in Daniel J. Overbey, *Railroads — The Free Enterprise Alternative* (Westport, Connecticut: Quorum Books, 1982), pp. 113-15.

11 See, for example, Overbey, *Railroads*; Daryl D. Wyckoff, *Railroad Management* (San Diego, California: Lexington Books, 1976); John C. Spyckaski, "Progress, inconsistencies and neglect in the social control of railway freight transport," *Journal of Economic Issues* 27 (June 1982):433-42.

12 R. L. Banks and Associates, P. S. Ross and Partners, M.P.S. Associates, and M. W. Menzies Group, *Roadbed Costs and Cost Relief Options for Canada's Contiguous Railways*, Federal-Provincial Committee on Western Transportation, 1975.

13 Transport Canada, *Freedom to Move: A Framework for Transportation* (Ottawa: Supply and Services Canada, 1985), p. 37.

14 Cubukgil, "... regulatory reform in rail transport."

15 See A. Cubukgil and R. M. Soberman, "The institutional structure of rail passenger transport in Canada and the United States," *Transportation Research Forum*, Boston, October 1984.

16 Indeed, the railways have an incentive to increase the costs associated with passenger service if that would benefit other aspects of their operation. It has been noted, for example, that work on passenger trains is relatively attractive to train crews who are paid according to distance. This payment system contributed to the high cost of passenger service, but it can serve the purpose of the railways by allowing them to pass on the cost of their most senior and most costly employees to VIA Rail. Moreover, in negotiations with the union, the railways can use the attractive working conditions on passenger trains as a bargaining lever to obtain terms that will benefit their freight operations. See A. Cubukgil and R. M. Soberman, "Costs of rail passenger service in Canada: An examination of institutional problems," a paper presented at the Canadian Transportation Research Forum, Jasper, Alberta, 1984.

17 See Jerome T. Bentley, "Issues in subsidization, with attention to the subsidization of passenger rail service," Economic Council of Canada, Discussion Paper 282, Ottawa, 1985.

18 David McQueen, *Aspects of Rail Passenger Policy in Canada*, Canadian Transport Commission, Research Branch, Report 1985/01E (Ottawa: CTC, April 1985).

19 Richard J. Potvin, "An analysis of the cost of on-board labour for rail passenger service in the Quebec-Windsor Corridor," thesis submitted to the Department of Civil Engineering, University of Toronto, 1984.

20 Gordon R. McGregor, *The Adolescence of an Airline* (Montreal: Air Canada, 1980), pp. 189-90.

21 Pacific Western Airlines was assigned British Columbia and Alberta; Transair, the Prairies, and Northwestern Ontario; Nordair, the remainder of Ontario and northeastern Quebec; Quebecair, the region of Quebec east of Montreal; and Eastern Provincial Airways, the Atlantic provinces.

22 A. Ellison, "The rise and decline of protective economic airline regulation," *Transportation Law Journal* 15, no. 1 (1986).

23 John R. Baldwin, *The Regulatory Agency and the Public Corporation* (Cambridge, Mass.: Ballinger, 1975).

24 Stated at Canadian Transport Commission's Discount-Fare Hearings, 1982.

25 D. W. Gillen, T. H. Oum, and M. W. Tretheway, "Identifying and measuring the impact of government ownership and regulation on airline performance," a study prepared for the Economic Council of Canada, Ottawa (forthcoming).

26 McGregor, *The Adolescence of an Airline*, p. 159.

27 Gillen, Oum, and Tretheway, "... government ownership and regulation of airline performance."

28 Ellison, "... protective economic airline regulation."

29 Since 1984, U.S. carriers have been granted automatic entry from any point in the United States — other than major gateways — to Mirabel Airport. The U.S. government established a similar status for its airport in San José, California. As well, there have been discussions with the United States regarding the exchange of cabotage rights, whereby Canadian carriers would be allowed to operate on selected U.S. domestic routes, and U.S. carriers would be extended similar rights in Canada.

30 Economic Council of Canada, *Reforming Regulation* (Ottawa: Supply and Services Canada, 1981).

31 See W. A. Jordan, *Performance of Regulated Canadian Airlines in Domestic and Transborder Operations*, Consumer and Corporate Affairs Canada, Research Monograph 12 (Ottawa: CCAC, 1982).

32 It is significant that although Air Canada currently dominates the domestic market (possessing approximately 50 per cent of the market), in the North American market it ranks only eighth in size, measured in passenger kilometers, and tenth if measured by passengers carried; see *Air Transport World* (May 1985).

CHAPTER 6

1 See, for example, Royal Commission on the Economic Union and Development Prospects for Canada, *Report* (Ottawa: Supply and Services Canada, 1985), vol. 2, chap. 9.

2 Economic Council of Canada, *Intervention and Efficiency* (Ottawa: Supply and Services Canada, 1982).

3 See J. M. Mintz, "Public-private mixed enterprises: The Canadian example," Queen's University, Department of Economics, Discussion Paper 325, Kingston, Ontario, 1979.

4 The CDC successfully resisted government pressure to bail out Massey-Ferguson. The board also resisted efforts by the government to impose its own choice as chairman, following the resignation of John Ellis in 1981. The government candidate, Maurice Strong, withdrew in face of the opposition of the directors, and the board appointed Frederick Sellers to a two-year term.

5 Abraham Tarasofsky, "Mission improbable: The Canada Development Corporation, 1973-84," a paper prepared for the Economic Council of Canada, Ottawa, 1986.

6 Stephen Brooks, "The state as entrepreneur: From CDC to CDIC," *Canadian Public Administration* (Winter 1983):525-43.

7 Oliver E. Williamson, *Markets and Hierarchies: Analysis and Anti-Trust Implications* (New York: The Free Press, 1975), chap. 9.

8 D. G. McFetridge, *Government Support of Scientific Research and Development: An Economic Analysis* (Toronto: Ontario Economic Council, 1977.

9 A. B. Supapol and D. G. McFetridge, "An analysis of the federal make-or-buy policy," Economic Council of Canada, Discussion Paper 217, Ottawa, 1982.

10 Two popular types of incentive contracts — "cost-plus-incentive fee" and "fixed-price incentive" — establish

a target cost and allow the contractor to retain part of any resulting difference between the target costs and actual costs or to absorb a proportion of the excess of actual costs over the target.

11 See Appendix B, "Experience of the Department of Defense with incentive contracting," in Leland L. Johnson, Edward W. Merrow, Walter S. Baer, and Arthur J. Alexander, *Alternative Institutional Arrangements for Developing and Commercializing Breeder Reactor Technology* (Santa Monica, California: Rand Corporation, R-2069-NSF, November 1976).

12 Statement (Press Release) by Premier William Davis in the Legislature of Ontario, June 3, 1971, p. 3, quoted in Christopher S. Maule, "The Urban Transportation Development Corporation: A case study of government enterprise," Economic Council of Canada, Discussion Paper 281, Ottawa, 1985.

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24 By contrast, the private U.S. producer Westinghouse, which for some time had set the pace in the industry, adopted an aggressive marketing strategy; it "loss leadered" nuclear power stations on a turnkey fixed-price basis, guaranteed the price of uranium under longer-term contracts, and licensed its technology to, and entered into joint ventures with, foreign producers. See Lermer, "Atomic Energy of Canada Limited."

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46 The new guidelines will lead to closer scrutiny of the relevant projects and the imposition of a fee "in recognition

of the value conferred by the guarantees." The government will in some cases attempt to share in any extraordinary gains "as a quid pro quo for its acceptance of risk." In addition, departments are now required to set aside reserves to offset the potential costs associated with new loan guarantees. See *Budget Papers: Securing Economic Renewal*, Supplementary Information and Notices of Ways and Means Motions on the Budget, tabled in the House of Commons by the Honourable Michael H. Wilson, February 26, 1986.

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52 Silver Associates, "Government enterprise as a bailout instrument."

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62 The Government of Quebec recently (October 1986) announced its intention to sell the interest in Domtar held by SGF through one of its subsidiaries (Dofor).

63 Considerations of the latter type — in particular, the threat of the Caisse gaining control over Canadian Pacific — undoubtedly represented one of the reasons for the federal government introducing legislation (Bill S-31) in 1982, which never became law, to limit provincial investments in companies involved in interprovincial or international transportation to no more than 10 per cent of voting shares.

64 The purchase of Domtar by the Caisse seems to have affected the price of the stock negatively. See Catherine Eckel and Theo Vermalen, "Internal regulation: The effects of government stock ownership on the value of the firm," May 1984, mimeo. Also see James E. Pesando, "An economic analysis of government investment corporations, with attention to the Caisse de dépôt et placement du Québec and the Alberta Heritage Fund," Economic Council of Canada, Discussion Paper 277, Ottawa, March 1985, chap. 4; and Marcel Côté and Léon Courville, "La perception de la Caisse de dépôt et placement du Québec par les chefs d'entreprises," in *La Caisse de dépôt et placement du Québec*, ed. Claude E. Forget. As well, a recent survey of chief executives by Côté and Courville indicates wide apprehension that Caisse investments can represent a form of nationalization.

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CHAPTER 10

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APPENDIX A

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